University of Alberta

The CSI Effect: Examining *CSI*'s Effects upon Public Perceptions of Forensic Science

by

Kiara Okita

A thesis submitted to the Faculty of Graduate Studies and Research
in partial fulfillment of the requirements for the degree of

Master of Arts

Department of Sociology

Edmonton, Alberta
Fall 2007

Library and Archives Canada

Published Heritage Branch

395 Wellington Street
Ottawa ON K1A 0N4
Canada

Bibliothèque et Archives Canada

Direction du Patrimoine de l'édition

395, rue Wellington
Ottawa ON K1A 0N4
Canada

Your file Votre référence
ISBN: 978-0-494-33150-7
Our file Notre référence
ISBN: 978-0-494-33150-7

NOTICE:
The author has granted a non-exclusive license allowing Library and Archives Canada to reproduce, publish, archive, preserve, conserve, communicate to the public by telecommunication or on the Internet, loan, distribute and sell theses worldwide, for commercial or non-commercial purposes, in microform, paper, electronic and/or any other formats.

The author retains copyright ownership and moral rights in this thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without the author's permission.

AVIS:
L'auteur a accordé une licence non exclusive permettant à la Bibliothèque et Archives Canada de reproduire, publier, archiver, sauvegarder, conserver, transmettre au public par télécommunication ou par l'Internet, prêter, distribuer et vendre des thèses partout dans le monde, à des fins commerciales ou autres, sur support microforme, papier, électronique et/ou autres formats.

L'auteur conserve la propriété du droit d'auteur et des droits moraux qui protège cette thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

In compliance with the Canadian Privacy Act some supporting forms may have been removed from this thesis.

While these forms may be included in the document page count, their removal does not represent any loss of content from the thesis.

Conformément à la loi canadienne sur la protection de la vie privée, quelques formulaires secondaires ont été enlevés de cette thèse.

Bien que ces formulaires aient inclus dans la pagination, il n'y aura aucun contenu manquant.

Canada

ABSTRACT

Known as the "CSI effect," legal practitioners have asserted that jurors who are viewers of the *CSI: Crime Scene Investigation* television franchise form misperceptions about the accuracy and necessity of forensic science in determining criminal guilt. Only negligible evidence of *CSI*'s role in effecting these perceptions supports CSI effect claims. Moreover, studies investigating the CSI effect have been limited by a failure to consider other factors which may be effecting juror perceptions of forensic science. Through the use of hierarchical regression, the research presented in this thesis therefore considers *CSI* viewing as but one of several factors potentially affecting juror perceptions of the accuracy and necessity of forensic science. The regression results suggest that juror perceptions may be affected by factors in addition to and independent of *CSI* viewing, and furthermore, that even when a CSI effect is locatable in theory, *CSI*'s effects may be imperceptible in the real world.

DEDICATION

This work is dedicated to my loving and supportive partner, Dan Mikaluk, whose extensive patience, humor, and belief in me humbly reminds me that no matter how independent this project seemed, it was never undertaken alone.

Acknowledgements

This thesis would not have been possible without the assistance, effort, and support of several institutional bodies and key people.

I would like to extend my gratitude and appreciation to the staff and faculty of the Population Research Laboratory at the University of Alberta. In particular, I extend thanks to Dr. Andrew Harrell for his belief in the potential of this project, and for granting me the award that allowed for the collection of the data that serves as the basis for this research. I would also like to thank Tracy Kennedy and Dave Odynak for their time and effort in helping me develop the survey questions, and for their humorous *CSI*-related anecdotes.

I am grateful to the members of the Sociology Department and of the Graduate Admissions and Awards Committee who reviewed my scholarship applications and believed in my work enough to grant me internal scholarships, and to forward my applications to the Social Sciences and Humanities Research Council. I extend my sincerest thanks to these members, and to the Social Sciences and Humanities Research Council for funding my learning and research endeavors. I am most appreciative of the opportunities that this assistance has made possible for me.

I would like to thank my supervisor, Dr. Helen Boritch, for her eagle eye, and her consistent promotion of my academic pursuits. I would like to extend thanks to Dr. Michael Haan for his assistance via several mediums (!), and for his accessibility and warmth. I would also like to thank Dr. Roy Suddaby for his interest in this project, and for his time and understanding. I also extend deep thanks to Dr. William Johnston, without whom so many of these achievements would not have been possible.

Last, but certainly not least, I would like to thank my friends and family for their unwavering support and encouragement. Thank you to the members of my MA cohort, and in particular, to Teresa Roeske (Bladon), for their empathy, and generous listening ears, their careful, reviewing eyes, and for their unique understanding of the trials and tribulations of Master's students. I would like to extend a special thanks to Jonathan Hak, Q.C., for introducing me to this fascinating pop cultural phenomenon, "the CSI effect," and for his uplifting humor and his generous wisdom. Thank you to Dr. John Winterdyk who believed in my capacity as a grad student long before I ever did, and whose interest in my work still moves me beyond words. I extend deep and heartfelt thanks to my parents, Pat and Lloyd, who have shared with me their own natural and abiding curiosity, instilled in me a love of learning, and supported and believed in me always. I am thankful for the encouragement and constant backing of my siblings, Kerry Lynn and Randy, who have stood by me, worked with me through these and many other ideas, carefully reviewed scholarship applications, and always cheered me on. I also send thanks to the Mikaluk family whose quiet understanding and assistance is and has always been appreciated more than they could know. I extend my deepest thanks to my partner, Dan, to whom I am unendingly grateful for his love and encouragement, his unmatchable excitement, and his steadfast support.

TABLE OF CONTENTS

INTRODUCTION **1**

CONCEPTUALIZING THE CSI EFFECT 3
CSI Effect Claims Concerning the Accuracy and Necessity of Forensic Science *4*
Changes Promoted by Belief in the Existence and Prevalence of the CSI Effect *5*
STATEMENT OF THE PROBLEM 6
THE AIM OF MY THESIS 7
The Research Questions Driving My Analysis of CSI's Effects *8*
STUDY OVERVIEW 9

CHAPTER ONE – REVIEWING THE LITERATURE CONCERNING *CSI* AND *CSI*'S EFFECTS **11**

CSI'S REPRESENTATIONS OF FORENSICS 11
CSI'S "EFFECTS" ACCORDING TO THE LITERATURE 15
(Mis)perceptions Concerning the Accuracy of Forensic Science *15*
(Mis)perceptions Concerning the Necessity of Forensic Science *17*
Anecdotal Assessments of Juror Expectations of Forensic Science *22*
A CRITICAL ASSESSMENT OF THE CSI EFFECT LITERATURE 25
CHAPTER SUMMARY 30

CHAPTER TWO – THEORETICAL FRAMEWORK **33**

MEDIA DEPENDENCY THEORY: AN OVERVIEW 34
Applying Media Dependency Theory to an Examination of CSI's Effects *35*
Theoretical Conditions Heightening Public Dependence on the Media for Forensics-Related Information *36*
The Social System: Social Change and Ambiguity 37
The Media System: The Number and Centrality of Information Functions Served by the Media 38
Audiences: Differing Dependency Relations 40
The Social Constructs Informing Public Perceptions of Forensic Science 42
CHAPTER SUMMARY 43

CHAPTER THREE – METHODOLOGICAL APPROACH **46**

SURVEY DATA 47
RESPONDENTS 47
GENERALIZABILITY 48
SAMPLE RESTRICTIONS 48
VARIABLES INCLUDED IN THE ANALYSES 48
Dependent Variables *49*
Predictor Variables *51*
The "Main Effect" of CSI Viewing 51
Control Variables 51
Focal Variables 53
APPROACH TO DATA ANALYSIS 54
THE NATURE AND STRUCTURE OF THE REGRESSION ANALYSES 56
Dependent Variables *56*

Predictor Variables and Their Order of Entry 56
The "Main Effect" of CSI Viewing 56
Control Variables 57
Focal Variables 57
CHAPTER SUMMARY 58

CHAPTER FOUR – RESULTS: PERCEPTIONS OF THE ACCURACY OF FORENSIC SCIENCE 60

DESCRIPTIVE STATISTICS 60
Dependent Variable 60
Main Effect 60
Demographic Variables 62
Life Experience Variables 62
Other Media Variables 63
CSI Specific Variables 64
REGRESSION RESULTS: PERCEPTIONS OF THE ACCURACY OF FORENSIC SCIENCE . 65
Main Effect 65
Control Variables 67
Demographic Variables 67
Life Experience Variables and Other Media Variables 68
Focal Variables 69
Revisiting the "Main Effect" of CSI Viewing Throughout The Models 69
CSI Specific Variables 70
Mapping the Relationship Between CSI Viewers' and Non-Viewers Perceptions ... 72
CHAPTER SUMMARY 75

CHAPTER FIVE – RESULTS: PERCEPTIONS OF THE NECESSITY OF FORENSIC SCIENCE 79

DESCRIPTIVE STATISTICS 79
Dependent Variable 79
Focal Variable 81
Perceptions of the Accuracy of Forensic Science 81
REGRESSION RESULTS: PERCEPTIONS OF THE NECESSITY OF FORENSIC SCIENCE .. 81
Main Effect 83
Control Variables 83
Demographic Variables 83
Life Experience Variables 83
Other Media Variables 84
Focal Variables 85
Revisiting the "Main Effect" of CSI Viewing Throughout the Models 85
CSI Specific Variables 87
Perceptions of the Accuracy of Forensic Science 87
Summary of the Focal Variable Findings 88
CHAPTER SUMMARY 90

CONCLUSION 93

BIBLIOGRAPHY 108

APPENDIX 117

LIST OF TABLES

TABLE 1: REGRESSION VARIABLES AND CODING KEY 49

TABLE 2: ACCURACY REGRESSION DESCRIPTIVE STATISTICS 61

TABLE 3: ACCURACY REGRESSION RESULTS 66

TABLE 4: CONSTRUCTING THE HYPOTHETICAL ACCURACY REGRESSION RESPONDENTS 73

TABLE 5: NECESSITY REGRESSION DESCRIPTIVE STATISTICS 80

TABLE 6: NECESSITY REGRESSION RESULTS 82

TABLE 7: PREDICTED PERCEPTION SCORES FOR HYPOTHETICAL ACCURACY REGRESSION RESPONDENTS 117

TABLE 8: PREDICTED PERCEPTION SCORES FOR HYPOTHETICAL NECESSITY REGRESSION RESPONDENTS 117

LIST OF FIGURES

FIGURE 1: A VISUAL CONCEPTUALIZATION OF THE CSI EFFECT 4

FIGURE 2: THE COGNITIVE AND BEHAVIORAL EFFECT DIMENSIONS OF THE CSI EFFECT 8

FIGURE 3: CSI VIEWERSHIP 62

FIGURE 4: RESPONDENTS' FORENSIC SCIENCE KNOWLEDGE ACQUIRED FROM CSI VIEWING 64

FIGURE 5: NONLINEAR EFFECT OF AGE ON PERCEPTIONS OF THE ACCURACY OF FORENSIC SCIENCE 67

FIGURE 6: PREDICTED CSI VIEWER AND NON-VIEWER PERCEPTIONS OF THE ACCURACY OF FORENSIC SCIENCE 73

FIGURE 7: PREDICTED CSI VIEWER AND NON-VIEWER PERCEPTIONS OF THE NECESSITY OF FORENSIC SCIENCE 86

FIGURE 8: A CONTEXTUAL ANALYSIS OF *CSI*'S EFFECTS 96

INTRODUCTION

Since television became the primary mass entertainment medium in the 1950s, the subject of crime has dominated the airwaves, serving as the most popular story element represented on television throughout the medium's history (Cavender & Deutsch, 2007; Gever, 2005; Surette, 1998). During this history, television crime dramas have (re)produced ideologies and stereotypes about crime and criminals so long established that they pre-exist even the medium itself. Despite these formulaic conventions, the popularity of crime dramas persist, evidenced by the fact that crime dramas today represent one quarter to one third of all primetime programming (Surette, 1998). The popularity of this genre has resulted in an increasing demand for innovative approaches to the "traditional cop show" formula in order for a series to succeed in today's competitive television marketplace. The widespread success of the television franchise, *CSI* (*Crime Scene Investigation*), is arguably today's par exemplar of such innovation.

Series Creator and Executive Producer, Anthony E. Zuiker, said that *CSI*'s conceptual impetus came from watching *The New Detectives*, a program on The Discovery Channel that depicts real-life scientists using forensics to help solve crimes (*Talk with 'CSI' Creator,* 2002; '*The CSI Effect,* ' 2005). A struggling writer at the time, Zuiker claims that after watching these shows, he began thinking that forensic science offered a "heck of … a different spin on a cop show" (*Talk with 'CSI' Creator,* 2002). *CSI*'s "spin" on crime drama conventions rests in its representation of science as the ultimate criminal "detective." Although each program in the series includes a staple cast of characters, *CSI*'s true star is the forensic science and technology represented on the programs.

Ironically, the story of the shows' widespread popularity has taken a hyperreal turn. Conceived of by virtue of television depictions of *real-life* uses of forensic science, *CSI*'s *fictional* representations of forensics have resulted in claims that the program is now affecting *real-life* criminal justice – some contend for the better, while others insist for the worse. Some claim that *CSI* viewing promotes more informed and attentive jurors who are therefore more interested in, and capable of understanding complex trial evidence (Di Pasquale; 2006; Stockwell, 2005). Indeed, Zuiker has said that this is "the most amazing thing that has ever come out of the series. For the first time in American history, you're not allowed to fool the jury anymore" (*'The CSI Effect,'* CBS News, 2005). Others assert that fooling the jury is precisely what the fictional crime dramas have done.

Known as the "CSI Effect," various criminal justice practitioners assert that *CSI* promotes several fallacies about forensic science, misconceptions that when held by jurors, result in verdicts which are "contrary to the interest of justice" (Maricopa County Attorney's Office (MCAO), 2005:2). Former prosecutor and CBS News Consultant Wendy Murphy argues, "once you get the influence of *CSI*, what [jurors] start to expect is not only a lot of forensic evidence, but that this one missing piece would have told them the truth. That's just not reality" (*'The CSI Effect,'* 2005). For example, Chris Connelly of the American *National Center for State Courts*' Jur-E Bulletin notes that

> a Tavares jury returned a lesser verdict of aggravated battery in an attempted murder case. Their reasoning? One juror proclaimed to prosecutors after the case that 'they had wanted more scientific evidence, such as details about the angle and depth of the stab wound,' despite the fact that eyewitnesses saw the assailant stab the victim (2005:1).

Similarly, the issue of a CSI effect was raised in the 2005 acquittal of actor Robert Blake. Los Angeles District Attorney Steve Cooley infamously called jurors "incredibly

stupid" for their decision to acquit Blake of his wife's murder based on their belief that further forensic evidence was required for a conviction – despite the testimony of several witnesses that Blake had repeatedly solicited others to murder his wife (Cole & Dioso, 2005; Roane, 2005; Robben, 2005).[1]

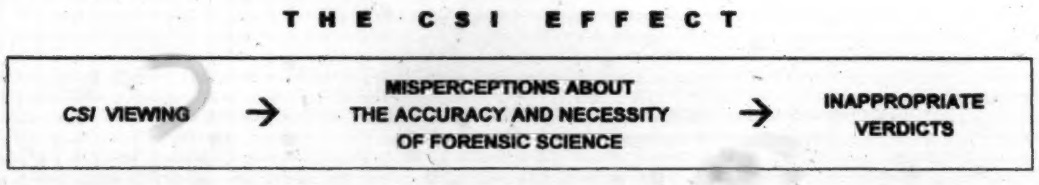
CONCEPTUALIZING THE CSI EFFECT

To date, evidence substantiating the existence of the CSI effect consists of anecdotes contained in journalistic writing on the subject (such as those presented above), and represented in studies compiling opinion interviews with both prosecution and criminal defense lawyers. In essence, these anecdotes suggest that *CSI* viewing leads jurors to believe that forensic science alone yields incontrovertible proof of guilt or innocence, and that jurors therefore believe it necessary when determining criminal culpability. Although espoused by both sides of the adversarial legal system, commonalities between these claims have led me to conceptualize the CSI effect as a composite of three implicit and sequential components; namely that (1) *CSI* viewing, (2) leads jurors to form misperceptions about the accuracy and necessity of forensic science, which (3) results in the rendering of inappropriate verdicts (see Figure 1 below).

---

[1]Two notes should be made about use of the "CSI effect" term.
First, although *CSI*'s ostensive effect upon juries represents the most common usage of the term, it has also been used to describe several other "effects" said to be produced by the popular program franchise. For example, *CSI* has been said to effect unprecedented increases in applications to and enrollment in forensic science-related programs across North America. The term has also been invoked to describe greater civilian interest in forensic science-related matters; the informal education some argue the programs provide criminals with in terms of how to avoid detection; and even an increase in female interest in careers in science previously thought to be gendered male. As noted in-text, however, the focus of my study stems from allegations of *CSI*'s effect upon juries.
Secondly, given its name, the term clearly references *CSI*, the popular franchise of forensic crime dramas. However, the *CSI* programs are not recognized as the only series of television shows said to be generating this "effect." Other fictional crime dramas featuring forensic science and/or forensic scientific specialists such as *Crossing Jordan, Bones, Cold Case,* and *Law & Order* are often implicated in *CSI*'s effects. As will be seen, my research concerns *CSI*'s specific effects (where *"CSI"* is in reference to any and/or all of the three programs included in the franchise), but involves consideration of these other forensic-related media sources.

Figure 1: A Visual Conceptualization of the CSI Effect


THE CSI EFFECT
CSI VIEWING
MISPERCEPTIONS ABOUT THE ACCURACY AND NECESSITY OF FORENSIC SCIENCE
INAPPROPRIATE VERDICTS

CSI Effect Claims Concerning the Accuracy and Necessity of Forensic Science

Some defense lawyers contend that *CSI* viewing causes jurors to rely too heavily upon scientific evidence because they erroneously believe that scientific findings yield unassailable evidence of guilt (Cole & Dioso, 2005; Gildea, n.d.; Heinrick, 2006; Massie, 2005; Rincon, 2004; Robben, 2005; Zickefoose, 2006). They assert that when the state presents scientific evidence, jurors are "unwilling to accept that those findings can be compromised by human or technical errors" (Willing, 2004), and as such, are biased by scientific evidence "regardless of its validity" (Winter & York, 2007). Defense attorneys maintain that jurors' misconceptions about the accuracy of forensic science therefore lead them to convict innocent persons.

Similarly, some prosecutors have argued that *CSI* has raised the state's burden of proof from one *beyond a reasonable doubt*, to one "beyond any and all doubt" (Connelly, 2005:1; Podlas, 2006:436) or to "scientifically, no doubt at all" (Rifkin, cited in Cather, 2004:12). They assert that *CSI*-viewing jurors expect to see scientific evidence presented in all cases, even in those where it is deemed unnecessary by conventional legal standards (for example, in cases where other substantive evidence of guilt has been presented). They contend that in cases where the state does not present such evidence at trial, jurors are reading an absence of forensic evidence as an absence of proof of guilt ('*CSI Effect*'

Making Cases Hard to Prove, 2005; Dutelle, 2006; Gildea, n.d.; Heinrick, 2006; Massie, 2005; Rincon, 2004; Tandy, 2006; Willing, 2004; Zickefoose, 2006). As such, prosecutors argue that jurors' misperceptions about the necessity of forensic science in determining guilt result in acquittals of otherwise guilty defendants.

Changes Promoted by Belief in the Existence and Prevalence of the CSI Effect

As a result, this belief in the existence of the CSI effect has led legal practitioners across North America to change the ways in which evidence is handled in court. For example, some lawyers will now call upon criminal justice personnel to testify as to why various as-seen-on-TV scientific analyses were not conducted so as to preempt juror fixation on an absence of such evidence (Cohn, n.d.; Di Pasquale, 2006; Dworetzky, 2005; Houck, 2006; Massie, 2006; MCAO, 2005; Tibbets, 2007; Watkins, 2004; Willing, 2004). Similarly, many American lawyers now question potential jurors intensively about their television viewing habits, and attempt to explain the disparity between forensic fact and fiction (Cather, 2004; DiFonzo, 2005; Houck, 2006; Willing, 2004).[2] Likewise, judges have begun admonishing jurors during trial not to consider television sources when deliberating (Di Pasquale, 2006). Yet at least one scholar has suggested that while such efforts are intended to mitigate television's impact on juries, the focus of this attention may actually serve to "*heighten* its role in decision making" (emphasis added, Tyler, 2006:1061). Professor Tom R. Tyler references jury studies which suggest that when a media issue is "made salient, the importance of that issue in decision making is *increased*" (emphasis added, 1061). He therefore asserts that while legal practitioners

[2] Similar questioning of jurors is not undertaken in Canada, because all that counsel in this country are permitted to know about jurors on the panel (those who have been summoned to a jury selection) are their names, addresses, and occupations (Tanovich, Piaocco, & Skurka, 1997).

may be using these strategies as a precaution taken to reduce a possible CSI effect on juries, research suggests that these strategies might instead *increase* the possibility that a CSI effect will occur. Tyler therefore maintains that

> changes to the legal system are premature. More generally, the issues raised by current attention to the CSI effect illustrate the problems that arise when proposed changes to the legal system are supported by plausible, but empirically untested, "factual" assertions (1050).

Tyler's comments relate to the fact that changes to the legal system have been undertaken despite a scarcity of systematic research examining whether or not and to what extent *CSI* viewing actually influences public perceptions of forensic science.

STATEMENT OF THE PROBLEM

The popular media has largely represented the existence, and indeed, the prevalence of the CSI effect as an unproblematic and foregone conclusion. CSI effect studies, however, have yielded only mixed results, due in part to differing methodologies and research subjects. Yet irrespective of whether the existence of the CSI effect has been evidenced in journalistic or scholarly literature, one notable finding emerges: the vast majority of cited CSI effect examples fail to link *CSI* to the effects said to flow from it. While the literature does contain a relatively limited number of examples of American jurors[3] who have specifically cited *CSI* as a pivotal reference used during their deliberations, the preponderance of the literature, at best, tends to note instances of juries who have misperceptions about the accuracy and necessity of forensic science – *CSI* is, in fact, rarely directly implicated in the formation of these expectations.

[3] Whether or not Canadian jurors have been "*CSI* effected" is difficult to ascertain. This is because Canadian jurors are prohibited by law from ever disclosing the nature and content of their deliberations as set out by both common law and section 649 of the *Canadian Criminal* Code. The "rationale of the jury secrecy provisions [is] to foster free and frank debate among jurors, to preserve the finality of the verdict, and to protect jurors from post verdict harassment" (Brockman & Rose, 2001:110-111).

It therefore seems that the existence of the CSI effect has been determined on the basis of an extremely limited number of cases where according to (losing) trial lawyer(s),[4] jurors said that what they had learned from *CSI* affected their verdict deliberations. Moreover, the prevalence of the CSI effect has been concluded on the basis of cases in which jurors appeared to have misperceptions about forensic science, yet made no mention of *CSI* whatsoever.

While the anecdotes espoused by lawyers may indeed be suggestive of shifting public (mis)perceptions about the accuracy and necessity of forensic science in determining criminal culpability, *CSI*'s role in effecting these (mis)perceptions remains questionable. As such, before this effect can be considered *CSI specific*, significant and substantial evidence linking the programs to them is required.

THE AIM OF MY THESIS

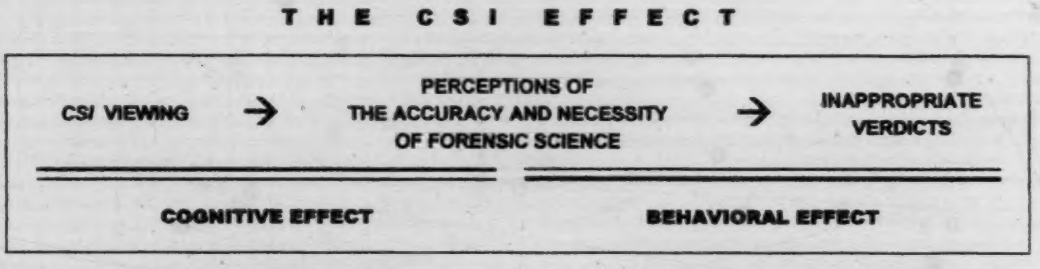
The aim of my thesis is to examine whether or not *CSI* viewing indeed affects public perceptions of the accuracy and necessity of forensic science. My decision to focus on these first two conceptual components of the CSI effect is grounded in the contingency between what amounts to cognitive and behavioral dimensions of the CSI effect. As Figure 2 illustrates, the CSI effect entails a cognitive effect and a behavioral effect, where the former necessarily precedes the latter. As such, if my examination reveals that *CSI* viewing does *not* affect perceptions of forensic science (cognitive effect), or, if *CSI* viewing is *not the only factor* affecting these perceptions, claims of a CSI

---

[4] Tyler notes that perceived "improper verdicts" may not be the result of a CSI effect, but might instead be a manifestation of lawyers' attempts to understand why their verdict expectations were not met. He suggests that it is possible that unanticipated verdicts are simply a product of counsels' "unrealistic assessments of the strength of their cases relative to jurors' assessments" (2006:1078), and not, as speculated, the result of a CSI effect. Such reasoning may be applied to allegations of the CSI effect in Robert Blake's acquittal, which represented the prosecutor's first loss in over 50 murder cases (*'The CSI Effect,'* 2005).

specific effect would no longer hold, as the presumed corollary of inappropriate verdicts (behavioral effects) resulting from these perceptions could no longer be considered the product of *CSI* viewing. Therefore if the linkage between *CSI* viewing and its effects upon perceptions of forensic science cannot be substantiated, notions of a CSI (specific) effect become altogether destabilized.

Figure 2: The Cognitive and Behavioral Effect Dimensions of the CSI Effect



As noted, the overarching aim of my thesis is to examine *CSI*'s effects upon public perceptions of the accuracy and necessity of forensic science, an aim which is informed by several particular questions. For example, my study queries whether or not *CSI* viewing alone is a significant and substantial predictor of public perceptions of the accuracy and necessity of forensic science while also questioning whether or not other factors may be affecting these perceptions. Moreover, in my exploratory study of the CSI effect, I also query whether or not measures of *CSI* viewing (which have been commonly used by CSI effect researchers) adequately capture evidence of *CSI*'s effects. Similarly, a review of the literature reveals that CSI effect researchers have failed to incorporate several important media effect considerations into their studies which may have affected the outcomes of their research. Together, these inquiries inform the aim of my thesis.

The Research Questions Driving My Analysis of *CSI*'s Effects

In sum, my analysis of the CSI effect is driven by the following specific research questions: *Does* CSI *viewing affect public perceptions of the accuracy and necessity of forensic science? Is* CSI *viewing alone a significant and substantial predictor of these perceptions? Is* CSI *viewing an adequate measure of* CSI*'s effects? What other factors currently unaccounted for in existing CSI effect research affect public perceptions of the accuracy and necessity of forensic science?*

STUDY OVERVIEW

In Chapter One, I review the literature concerning the *CSI* programs, and the CSI effect specifically. This chapter provides the context for the research questions guiding my study through discussion of the academic literature pertaining to *CSI*'s representation of forensic science, and of both the journalistic and scholarly writing that has been done about the series' posited effects on viewers.

In the second and third chapters, I discuss the study's research design. In Chapter Two, I provide an overview of my theoretical framework. I outline Sandra J. Ball-Rokeach and Melvin L. DeFleur's *Media Dependency Theory*, its relevance to the theoretical aims of my thesis, and the ways in which its premises have been adapted in my analysis. In Chapter Three, I discuss my methodological approach. I discuss the use of survey data specifically collected for the purposes of this thesis, my use of hierarchical multiple regression to conduct the analysis, and how this method offers a marked improvement over other examinations of the CSI effect conducted to date.

The fourth and fifth chapters concern the results of my study. In Chapter Four I discuss the results of my analysis of *CSI*'s effects upon public perceptions of the accuracy of forensic science, and Chapter Five pertains to findings concerning *CSI*'s effects upon

public perceptions of the necessity of forensic science in concluding criminal guilt. My discussion of these results situate my findings in relation to existing CSI effect literature.

In Chapter Six, the final discussion chapter, I conclude my study by noting its contributions to the relatively limited body of CSI effect research conducted to date. I also note the limitations of my own research and point to areas of future research prompted by my results.

CHAPTER ONE – Reviewing the Literature Concerning *CSI* and *CSI*'s Effects

CSI effect claimants maintain that *CSI* viewing significantly alters the way in which jurors perceive forensic science. While this is a relatively basic contention, it is also one which is fairly broad in scope, encompassing several implicit notions concerning how the *CSI* programs represent forensics, what these representations espouse, and how juror perceptions are affected by them. As these implicit understandings serve as the foundation for my research questions, *CSI*'s representations and its noted effects are discussed below.

CSI'S REPRESENTATIONS OF FORENSICS

The 'original' *CSI* television show, *CSI: Crime Scene Investigation* set in Las Vegas, first aired in 2000, and its progeny, *CSI: Miami* and *CSI: New York* debuted in 2002 and 2004, respectively. All three programs consistently rate among the top shows according to Nielsen Media Research, with *CSI* being touted as "the most watched show on North American television" (Valverde, 2006:54), and indeed as "the most popular television show in the world" (Shelton, Kim, & Barak, 2006: 334; Toobin, 2007:2). As one researcher notes, *CSI*s ability to merge science and entertainment in primetime is a notable accomplishment and a rare feat in commercial television today (Gever, 2005:450).

Typically beginning with the discovery of an evidence site and/or body, the balance of the *CSI* programs is spent on the collection and scientific analysis of evidence. It is the forensic evidence and scientific technology used in a lab more expensive and extensive than any actual crime lab in North America (Ebersole, 2002) that consistently

enables the shows' investigators to determine criminal guilt. Unlike traditional crime dramas in which forensics serves as a technical pursuit subordinate to "old fashioned police work," on *CSI,* forensics "has taken over the whole sphere of detection" (Valverde, 2006:84).

On the *CSI* programs, evidence is imbued with truth of criminal guilt established *a priori*, and scientific technology is represented as its ultimate facilitator. The truth embodied by the physical evidence is represented as obvious in its direct visibility (Mopas, 2007; Valverde, 2006), and therefore, as *CSI*'s characters often note, the evidence is able to "speak for itself." Before our eyes, the truth of the crime is revealed, "magically" reoccurring before us as we observe bodies and objects as they transition from a state of benign innocuousness into one of condemning physical evidence. The *CSI* lens attaches us to the weapon as it punctures skin and plunges into bodily cavities, forging fresh wound tracts and allowing us to witness resulting bone fragmentation, cell deaths, and final heart beats. We see how traces of tissue, fingerprints, spatter patterns, and tool marks are left on or by weapons and by those who wield them. We observe how the exposition of these truths by virtue of science and technology always leads to an unequivocal conclusion of someone's criminal guilt.

Whereas the accounts of witnesses and suspects reenacted by virtue of flashback devices are repeated and vary with each version of the unreliable story told, representations of scientific applications occur once, indicative of their unwavering and enduring truthfulness. This "forensic gaze" (Valverde, 2006) embodied in *CSI*'s depictions "privilege[s] the accuracy of physical evidence, and by extension, of science," thereby subtly erasing human analysis and interpretation (Cavender & Deutsch, 2007:75).

"The evidence is mediated and rendered visible through the application of forensic science, as the work of the investigator seemingly disappears into the backdrop" (Mopas, 2007:111). Indeed, the forensics used on the programs virtually upstage the series' characters, as *CSI* represents the scientific technology as the true agent of analysis and interpretation (Ebersole, 2002; Lovgren, 2004; Mirsky, 2005). As such, "justice is no longer a social endeavor that is open to the possibility of human error," but instead becomes a scientific endeavor, something that can be determined "quickly, automatically, and accurately within the laboratory" (Mopas, 2007:111).

The shows represent "physical evidence [as] superior to all other proof," (Cavender & Deutsch, 2007:75) inscribed with truths which can be instantaneously and accurately exacted by scientific technology ranging from the use of chemicals and swabs to complex scientific machinery and computer-facilitated databases. These representations of forensic evidence and technology "convey the idea that science has all the answers," and that these answers are "even computerized" ostensibly further distancing them from human error (75).[5]

CSI's implicit theme is that certainty of guilt is something delivered only by science because scientific conclusions are more even-handed and impartial than those rendered by humans (Gever, 2005:456; Turow, 2004:365). In accordance with the shows' mantra, this is because, unlike people, "the evidence never lies." Therefore, in contrast with witness accounts which are "characteristically" faulty and unreliable, scientific truths are irrefutable and unambiguous, rendering further substantiations of guilt

[5] Such depictions have led one forensic scientist to conclude that the shows' characters need not bother investigating crimes when instead, they can "just ask the computer who did it" (Houck, cited in Mirsky, 2005).

unnecessary. In this regard, Martha Gever's analysis of *CSI* is insightful, and merits quoting in full:

> The CSI's routine statements about the need for rigorous adherence to scientific practices seems to promise a new approach to justice, in which outlaws are convicted well before they appear before a judge or a jury is impaneled, well before the evidence is presented in court to be tested by the defense attorney's cross examination, well before a jury decides whether the evidence presented by the prosecution is indeed credible and relevant and therefore qualifies as evidence at all. … Rather, the locus of truth in *CSI* resides in expert applications of scientific technologies, without the troubling problems of interpretation … Accused lawbreakers are indicted and found guilty by scientists before they even get to court (2005:455-456).

These academic readings of *CSI* suggest that the programs communicate notions of forensic science as indisputably accurate and therefore necessary in determining criminal guilt. Yet, can we conclude that these notions are actually mirrored in viewers' perceptions of forensics? In other words, *does CSI viewing significantly affect public perceptions of the accuracy and necessity of forensic science?* Moreover, if *CSI* viewing does affect perceptions of the accuracy and necessity of forensic science, *is CSI viewing the only factor influencing them?*

A survey of the journalistic body of CSI effect literature reveals that the clear response to these questions is a resounding "yes." The implicit presumptions underlying CSI effect claims are that the shows' depictions of the uncompromised accuracy and thus the necessity of forensic science in solving crimes indeed produces like viewer perceptions of it. Yet studies conducted on the CSI effect are not as conclusive. Though few in number, these studies have yielded mixed results about the effect's existence. In what follows below, I provide a brief survey of the journalistic and academic CSI effect literature. Subsequent to this overview, I critically assess the literature and note recurrent

limitations in the research conducted to date. Discussion of these limitations serves as a backdrop for my research design which is discussed in the following two chapters.

CSI'S "EFFECTS" ACCORDING TO THE LITERATURE[6]

In order to address misconceptions about the accuracy and necessity of forensic science that *CSI* allegedly promotes, writing about the CSI effect will often attempt to underscore its potential for *in*accuracy and note circumstances in which the use of forensics is *un*necessary.

(Mis)perceptions Concerning the Accuracy of Forensic Science

CSI's depictions of forensic science's accuracy are challenged by many CSI effect articles that discuss its imperfections and shortcomings. These articles note that contrary to *CSI*'s representations of flawless forensics, real-life forensic science applications are not quite as clear-cut and seamless as the programs suggest they are. For example, some note that on the *CSI* programs "[y]ou never see a case where the sample is degraded," or cases in which the science(s) used are "faulty" (Willing, 2004), simply "bogus" (Roane, 2005) or too flawed or experimental to pass the legal threshold of admissibility (Gever, 2005).

Other articles note how the accuracy of forensic scientific findings can be tempered, and indeed tampered with, by those who collect, analyze, interpret, and present forensic evidence. Kit Roane (2005:2-5) discusses how fabricated evidence, improper testing, flawed interpretations, forged expertise, and perjured "expert" testimony all serve to compromise the accuracy of "real-life" forensic scientific conclusions, complications

[6] Because this literature review incorporates both journalistic references as well as citations of academic work, to be clear, unless references to people or works are specified as either academics (by virtue of the invocation "Dr." or "Professor") or as CSI effect "studies," respectively, all other citations should be taken as referencing journalistic writing.

which are typically glossed over by the *CSI* programs. In a similar vein, Dr. Patrick McCormick argues that *CSI*'s failure to represent human involvement in the rendering of scientific conclusions supports a "fundamentalist approach to 'the evidence,'" promoting the belief that scientific information does not involve human analysis and interpretation. He states that "[i]n the real world, information and evidence are ambiguous, incomplete, and almost always delivered by people (like ourselves) with agendas and biases" (2005:46).

In a similar vein, Professor J. Herbie DiFonzo notes that DNA evidence, arguably the most infamous of all types of forensic scientific evidence, shares "a reputation for scientific precision [that] is in fact unwarranted." He maintains that while in theory DNA evidence can provide extremely accurate biogenetic identifications, its use alone

> provides no affirmation that the DNA in question has been adequately gathered, examined, and maintained, nor whether testimony regarding DNA will be truthful or accurate … [Its] record is littered with slapdash forensic analyses often performed by untrained, underpaid, overworked forensic technicians operating in crime labs whose workings reflect gross incompetence or rampant corruption. Why does this matter? It matters because the average jury is not exposed to the track record of forensic science in the courtroom (2006:2).

Therefore, by believing that forensic scientific evidence is somehow divorced from error and/or bias, and is thus more accurate than other evidence forms, CSI effect claimants contend that juries discount counsels' provision of other credible evidence and/or testimony, and are demanding scientific evidence over and above what they have already been presented. For example, the Maricopa County Attorney's Office notes that in a

> recent Maricopa County case, the defendant was driving a stolen car and was pulled over and arrested by a police officer. The jury still wanted to know if his fingerprints were found in the car – despite the eyewitness testimony of the officer (2005:7).

(Mis)perceptions Concerning the Necessity of Forensic Science

CSI effect claimants maintain that examples like this also serve to highlight viewers' perceptions of the *necessity* of forensic science. They maintain that viewers' misconceptions about the accuracy of forensic scientific evidence lead them to believe it the decisive "linchpin" in determining criminal culpability and that a determination of guilt cannot be made without it. For example, Susan Clairmont (2005) notes how two Hamilton, Ontario juries in criminal trials asked during deliberations whether or not it was legally permissible to convict someone in the absence of DNA evidence. CSI effect claimants maintain that viewers *CSI*-based expectations of forensic science are so great that they will expect to see forensic scientific evidence presented in all cases, even when the collection and scientific analysis of evidence is *impossible*, *unwarranted*, and/or *unconventional*.

Impossible Forensics

CSI effect articles that discuss the impossibility of *CSI*'s forensics include quotes from various scientists who note how unfeasible some of these forensic methods are. For example, one frequently referenced example is an episode of the Vegas *CSI* in which the coroner poured a casting agent into a knife wound, that when hardened, revealed the shape of the knife used to kill the victim (Lovgren, 2004; Roane, 2005; Willing, 2004; Zickefoose, 2006), something that forensic experts maintain is "totally unrealistic" (Gialamas, cited in Lovgren, 2004). According to forensic scientist Thomas Mauriello, as much as forty percent of the forensic science depicted on *CSI* does not even exist (Cole & Dioso, 2005; Houck, 2006). Wendy Murphy contends that these depictions therefore lead "jurors who don't have a lot of brain cells" to ask "questions after the case is over about

why there weren't any fingerprints on the pillow case, [which] makes no sense" ('*The CSI Effect,*' 2005).

Unwarranted Forensics

Other CSI effect claimants maintain that *CSI* viewing jurors expect forensic scientific evidence that is simply unwarranted. They contend that viewers' beliefs that a case hinges on forensic scientific evidence blinds them to circumstances in which forensic evidence will not be presented because it does not point to criminal culpability. For example, in a Boston murder trial where the defendant was being tried for killing his wife, jurors had to be told that since the defendant had frequented his wife's apartment prior to the murder, "evidence such as fingerprints would have no evidentiary value" in terms of placing him at the crime scene (Cather, 2004:15).

Dr. Kimberlianne Podlas, investigated precisely this notion of unwarranted forensic scientific evidence in her examination of the CSI effect. Podlas surveyed 306 university students in terms of their general television and *CSI*-specific viewing habits, and measured the potential effect of *CSI* viewing by virtue of their responses to a fictional criminal trial scenario concerning a consent-at-issue sexual assault. In such a case, the issue of intercourse would not be disputed as both the alleging party and the accused would agree that intercourse occurred. What would be at issue was whether or not the intercourse involved consent. Podlas selected this scenario, because, as she notes, it "presented no critical issues pertaining to or that could be ascertained with reference to forensics" (2006:455). Podlas' study was therefore designed such that if frequent *CSI* viewers (a) found the hypothetical defendant "not guilty," on the basis of (b) forensics-

related, or what she called "CSI-marked" reasons, (c) more so than did non-frequent *CSI* viewers, a CSI effect would be confirmed.

After comparing the responses of *CSI* viewers and non-viewers, Podlas noted that no significant difference between the viewer groups was found (461). She therefore concluded that "the results do not support the hypothesis that *CSI* viewers are influenced by *CSI* marked reasons any more than non-viewers may be" (461). She postulates that perhaps *CSI* viewers are simply not influenced by "CSI-marked reasons," or alternatively, that they may not be influenced by them "any more than non-viewers." The latter, she comments, may be suggestive of the possibility of a "'CSI effect' across the population" (464). Either way, Podlas asserts that on the basis of her findings, the CSI effect "should be exposed for what it is: nothing more than fiction" (465).

Unconventional Forensics

Others maintain that *CSI*'s constant use of forensic science leads viewers to expect it in cases where forensic evidence is conventionally uncalled for. For example, one Police Captain discusses how "not every investigation warrants fingerprinting and [the] use of DNA evidence" (Riggs, 2005). He comments,

> In shoplifting cases we're not going to come in and dust the store for prints … Based on the seriousness of the crime, that dictates how much money and resources we're willing to put into having different evidence analysed. … On TV they run to the lab and within an hour they've got their results … For us it's more painstaking timewise (Capt. Eric Collins, cited in Riggs, 2005).

While in theory a perpetrator's fingerprints and/or DNA may be left at most crime scenes, a lack of systemic resources typically limits the collection and analysis of such evidence to cases deemed more serious in nature (for example, in violent-crimes such as murder, versus in non-violent crimes such as theft).

> "DNA analysis is used every six seconds on CSI," says Robert J. Castelli, a professor at John Jay College of Criminal Justice who was a police officer for 21 years. "To analyze properly a sample of DNA can cost as much as $10,000. You're not going to be using DNA analysis in every burglary." (Goehner, Lofaro, & Novack, 2004).

Astoria, Oregon District Attorney Joshua Marquis maintains that because of *CSI* "[j]urors now expect us to have a DNA test for just about every case" (cited in '*The CSI Effect*,' 2005), and that "attorneys will get up there and bang the rail and say 'Where were the DNA tests?' to take advantage of the idea that's in the juror's mind" (cited in Willing, 2004).

A recent CSI effect study examined juror perceptions of this sort by examining respondent expectations of forensic science across a spectrum of criminal cases. This study, conducted by the Honorable Donald E. Shelton, Dr. Young S. Kim, and Dr. Gregg Barak, surveyed respondents about the types of evidence they would expect in cases ranging from violent crimes such as murder, attempted murder, physical, and sexual assault to non-violent crimes such as theft, and break and enter. The purpose of the study was to determine respondents' expectations of the state in producing scientific evidence across this range of crimes, and to determine whether or not their expectations would translate into "demands for scientific evidence as conditions for a guilty verdict" (2006:336). The study involved 1027 respondents who had been called for jury duty and completed surveys that collected information pertaining to demographics, crime related television viewing habits, expectations of the presentation of scientific evidence in these varied criminal cases, and whether or not meeting these expectations were necessary to them in determining guilt (2006:332).

Shelton et al. found that overall, respondents' expectations were high, noting that almost half of the respondents (46.3%, including both *CSI* viewers and non-viewers)

expected the presentation of scientific evidence in *every* criminal case – regardless of the seriousness of the crime (357). Although they found that *CSI* viewing may marginally increase viewers' expectations of scientific evidence in certain cases, they maintained that for the most part, these expectations were "reasonable and comport with the reality of investigation procedures" (358), finding that as the seriousness of the crime increased, so too did their expectations of scientific evidence (357). Importantly, the authors noted that in the majority of criminal cases provided to them, respondents expectations "*did not* translate into demands for such evidence as a prerequisite for a finding of guilt or innocence" (359). Moreover, the results indicated that *CSI* viewers were *more likely* than non-viewers to "find a defendant guilty *without* 'any scientific evidence' if eyewitness testimony was presented" in all criminal cases, and in breaking and entering and theft cases, in particular (emphasis added, 357). Shelton et al. therefore concluded that even *CSI* viewers consider eyewitness testimony important when determining criminal guilt (357). This finding raises questions about claims made in the journalistic literature that *CSI* viewers disregard eyewitness testimony believing that scientific evidence is nevertheless required to determine guilt. The results also challenge CSI effect claimants' assertions that *CSI* viewing jurors will demand scientific evidence in cases involving non-violent crimes.

The authors noted that their most significant finding was that a demand for scientific evidence as proof of guilt was *not* related to watching crime related television programs, indicating that "[t]here was certainly no statistical relationship between respondents who specifically watched the *CSI* program and those who insisted upon some scientific evidence for a conviction" (362). Shelton et al. therefore concluded that "use of

the term 'CSI effect' is too crude," and assert that "broader cultural influences related to modern technological advances" are responsible for participants' expectations of forensic science, an array of influences that they have termed a "tech effect" (362). They maintain that technological developments that have facilitated the instantaneous exchange and transfer of information have allowed for greater public awareness of science and technology. Therefore, according to Shelton et al., attributing a shift in cultural awareness and expectations of forensic science and technology to a genre of television shows is simply "too narrow and simplistic" (363-364).

Anecdotal Assessments of Juror Expectations of Forensic Science

Others who have investigated the CSI effect have chosen to examine juror perceptions by way of legal practitioners' general assessments of them. These studies do not involve an examination of prospective jurors *CSI* viewing habits, nor of their perceptions of forensic science. Instead, they rely upon lawyers' estimations of the relationship between *CSI* viewing and jurors' perceptions of forensic science based upon their own trial experience. In other words, these studies rely upon lawyers' perceptions of jurors' perceptions of forensic science, effected by *CSI*.[7]

In the first of these studies, Florida State University student Michael J. Watkins surveyed 53 north Florida county criminal trial lawyers with jury experience (both prosecution and defense).[8] Watkins found that the majority of lawyers surveyed (79%)

---

[7] Before further discussing these studies, it should be noted that while both have been made public by virtue of internet accessibility and an internet-accessible press release, respectively, neither have been published in academic journals. Therefore, both studies arguably lack the rigor and elevated degree of scrupulousness characteristic of peer reviewed publications. They are nevertheless included herein, as they do form a part of the limited body of "empirical" CSI effect literature available to date.

[8] Watkins' study, entitled "Forensics In the Media: Have Attorneys Reacted to the Growing Popularity of Forensic Crime Dramas?" appears to be a Master's thesis. Notably, Watkins never uses the term 'CSI effect' despite the fact that his study considers precisely this effect (when regarding it as an effect brought about by *CSI* as well as other television crime dramas). It is possible that he did not use this increasingly

felt that viewing forensic television shows left jurors with unrealistic expectations of the criminal justice system (2004:61). Most interesting however, is his finding that 77 percent of the respondents "reported that they did not have any experience, or even knowledge, of jurors who had a skewed impression from viewing forensic crime dramas" (2004:64). Of the attorneys who did indicate that they had personal knowledge of jurors with a skewed impression of the criminal justice system from viewing crime dramas, the reasons given for these impressions were varied. The attorneys indicated that the noted jurors had formed "legal misunderstandings" such as failing to understand the legal rights of defendants, had expected particular types of irrelevant evidence, and that one juror was disappointed at not having being "dazzled" by the expert witness (65-66).

Watkins notes that the most significant finding yielded by his study was the fact that "a high number of attorneys" have witnessed cases where acquittals were rendered "based largely on [a] lack[ing] of forensic evidence when sufficient circumstantial or testimonial evidence existed" for a guilty determination (76). Watkins notes that 49% of the attorneys reported observing between one and five "improper acquittals" over the past five years,[9] and that 23% reported over five "faulty verdicts" in trials where forensic evidence was not presented but the attorneys felt that sufficient alternative evidence was presented to secure a conviction (73).

As a result, Watkins states that attorneys have responded to television's potential "effects" by calling more forensic evidence than they would have in the past, and/or by addressing television's science fictions before the jury. For example, 43 percent of the

---

popular colloquialism because either the term was still in its infancy at the time, or that perhaps he wanted to ensure that his work be regarded as more broad in scope than one concerned only with the impact of *CSI* (which is not shown exclusive focus in his thesis).

[9] Watkins indicates that his questions to respondents involved a five year frame of reference so as to encompass the time after and "shortly before the release of the widely popular television show *CSI*" (65).

attorneys Watkins surveyed reported "sometimes" requesting forensic tests that they would not have requested five years ago (65). To further mitigate forensic crime dramas' effects on juries, two of the prosecutors surveyed also indicated "consulting with a forensic expert to explain a lack of … forensic evidence to jurors" while another reported using *voir dire* to explain to jurors that the "actual court experience will differ dramatically" from what is depicted on television (67).

Employing a similar approach, the Maricopa County Attorney's Office conducted a study that involved a survey of 102 prosecutors with jury experience and concluded that "a significant CSI influence on Maricopa County juries" was found (2005:3). Remarkably, the report concedes that a detectable increase of inappropriate verdicts had *not* been noted, raising questions about the basis for this "significant CSI influence" that was purportedly discovered (5).

The study underscores prosecutors' concerns that jurors are increasingly focused on, and expectant of forensic evidence which they maintain is notable in later conversations with jurors.[10] For example, the study indicates that 40 percent of the prosecutors felt that "jurors often ask questions about evidence using terms or language not used at trial, like 'mitochondrial DNA,' 'latent prints,' 'trace evidence,' or 'ballistics'" (6). However the report notes that "of greater concern" is the fact that 72 percent of prosecutors "*suspect* that jurors who may have 'expertise' gained from viewing forensic crime television shows unduly influence other jurors who do not watch the shows" (emphasis added, 6-7). Yet, despite juror interest in forensic science, and contrary to the Attorney's Office's own operational definition of the CSI effect, jurors are

[10] The study notes that 64% of the prosecutors surveyed indicate that they "usually" talk to jurors and can "get their feedback [presumably about the trial] directly from the source" (2005:5).

not reaching verdicts that prosecutors consider "contrary to the interest of justice" (2). The authors note that "although the verdicts have not noticeably changed from guilty to not guilty, prosecutors have *had* to take more pre-emptive steps to divert juries from reliance on television style expectations" (emphasis added, 5).

While it is open to question why the prosecutors felt that they "had" to engage in processes to mitigate *CSI*'s potential impact on jurors, it is possible that the absence of "CSI-effected" verdicts can be explained by the preemptive measures they have taken. The report indicates that the "vast majority of Maricopa County prosecutors have changed the way that they prepare arguments and evidence to counteract the CSI effect" and that many began doing so "three to four years" before the study was conducted (9). For example, ninety percent of the prosecutors "explain to juries why police might not collect the kind of evidence depicted on television shows" and seventy-five percent "try to have fingerprint or other expert witnesses available to counter the effects … created by forensic crime drama television shows" (9). Whatever the reason for the unchanged (or absence of "CSI-effected") verdicts, a CSI effect as it is commonly defined, is not evident.

A CRITICAL ASSESSMENT OF THE CSI EFFECT LITERATURE

This review of the literature illustrates that conclusions about the CSI effect are mixed. It appears that the existence and prevalence of *CSI*'s "effect" was promulgated by anecdote contained within the popular media, and only recently supported by research such as that conducted by Watkins and the Maricopa County Attorney's Office, which also employed anecdotal data. Conversely, studies which have examined the CSI effect from the perspective of prospective jurors have refuted the effect's existence,

documenting no notable differences between *CSI* viewer and non-viewer perceptions of forensic science. While all of these studies have offered a significant contribution to the limited body of CSI effect research, they are not without limitations.

For example, several implications flow from the admittedly limited research conducted by Watkins and the Maricopa County Attorney's Office. First, these studies suggest that several potential effects may be occurring at the same time. For instance, are the unchanged acquittal rates noted in the Maricopa County study demonstrative of the "effect" of attorneys' strategies to mitigate a presumed CSI effect, strategies which are also noted in Watkins' study, *or*, are they reflective of the *absence* of a CSI effect altogether?

Second, both studies draw attention to the degree of unfounded supposition that may be informing notions of a CSI effect. This is demonstrated by Watkins' finding that the majority of the lawyers surveyed felt that crime dramas left jurors with unrealistic expectations of the criminal justice system, yet virtually the same percentage of respondents had *no* knowledge of, or experience with, jurors who held these television-based expectations. Similarly, the CSI effect conclusions drawn in the Maricopa County report appear equally unfounded. Of the three components comprising the CSI effect as I have conceptualized it (refer to Figure 1), the only component the report substantiates is that jurors' expectations of forensic science appear to be based upon misperceptions about forensics. This is evidenced by the examples of *ostensive* CSI effected jurors provided in the study. The authors included seven examples in the study to substantiate the CSI effect's existence. While all of the examples underscore jurors' inflated expectations of forensic science, only one of these examples links the influence of *CSI* to

the single juror's expectations of forensic science; none of the other examples identify *CSI* as the source of these misperceptions. Therefore while the report demonstrates that jurors may have misperceptions about forensic science, it fails to demonstrate a CSI effect by (a) offering negligible evidence of *CSI*'s role in effecting these misperceptions, and (b) by finding no evidence of inappropriate verdicts.

Given these limitations and the studies' exclusive reliance upon anecdotal data, the research conducted by Podlas and Shelton et al. appears to be more rigorous in comparison. Yet these studies too suffer from several shortcomings.

Podlas' study is notable in that it was the first empirical CSI effect research to be published in an academic journal, thereby responding to demands calling for an examination of the effect that was not dependent upon anecdote (Cole & Dioso, 2005; Tyler, 2006). While her study examines all of the conceptual components of the CSI effect (refer to Figure 1), it may be Podlas' exclusive focus upon these components that served to limit her study. Her choice of method (comparison of group means by virtue of a one-way ANOVA) necessarily essentializes her respondents into frequent or infrequent *CSI* viewers. As a result, their responses are also essentialized and stripped of all factors outside of television viewing which may have influenced their responses to the scenario. Her respondents' verdicts may have been effected by more than just the television shows they watch, for example, by factors such as their social location, their related life experiences, and their exposure to other forensics-related media that Podlas fails to account for in her study. In addition, some might argue that the generalizability of her findings is limited to the university student population that she chose to sample,

respondents' whose characteristics are not necessarily representative of the more general jury-eligible population as a whole.

At first glance, the study by Shelton et al. improves upon the limitations noted in Podlas' study. For example, they collected demographic information about their respondents which could be used to contextualize their expectations of forensics. Similarly, the authors' choice of summoned jurors as respondents offered a more diverse research sample, one which is more representative of eligible prospective jurors. However, Shelton et al.'s choice of method led them to equally essentialize respondents into *CSI* viewers and non-viewers. The demographic information they collected was not used to examine how respondents' social location may have affected their expectations of forensic science, but was only used (by virtue of chi-square tests) to assess how demographic characteristics affected their *CSI* viewing patterns (347). The bulk of Shelton et al.'s results were derived from descriptive statistics and t-tests (group mean comparisons between *CSI* viewers and non-viewers), methods that may describe various *viewing* trends, but fail to more fully contextualize and explain what else may have effected respondents' perceptions.

These researchers' failure to account for demographic effects is significant. Research suggests that media effects may be substantially reduced once demographics have been controlled for (Surette, 1998:205). Furthermore, research indicates that gender, age, and education are variables which differentially affect the way in which people access science and technology information, how useful they perceive this information to be, and their perceptions and beliefs about science and technology itself (see for example

Elliot & Rosenberg, 1987; Nisbet et al., 2002; The National Science Board *Science and Technology Indicators, 2006).*

Similarly, by essentializing respondents solely on the basis of their *CSI* viewing habits, the authors of both studies fail to consider other factors that might affect respondents' perceptions of forensic science. For example, neither study considered the effects of other forensic science-related information sources respondents may have been exposed to by virtue of their past experiences with crime and/or the criminal justice system, by learning of forensics from those that they know, the work that they do, courses they have taken, or from other media outside of the *CSI* programs. In this regard it is possible that respondents' elevated expectations of forensic science may have been effected by factors in addition to and/or unrelated to *CSI,* and possibly by factors unrelated to the media altogether. The significance of these considerations is evidenced in research which indicates that the information people acquire through personal experience or through interaction with others tends to influence perceptions more so than does information obtained from the media alone (Surette, 1998:7).

Finally, both studies also fail to offer adequate consideration to the "texture" of *CSI*'s effects by failing to examining more than just *CSI* viewership. For example, neither study examined whether or not viewer perceptions of the accuracy of *CSI*'s depictions affected their expectations of forensic science. Shelton et al. found a positive correlation between the frequency of crime drama viewing and perceptions of the accuracy of the programs' depictions (2006:346), however they failed to consider whether or not respondents' perceptions of the accuracy of *CSI*'s depictions affected their expectations of forensic science. It appears possible to posit that the more accurate the *CSI* programs

are perceived to be, the more likely it is that viewers will be affected by *CSI*'s depictions. This postulation is supported by research suggesting that the more credible audiences perceive a program to be, the more likely it is that media effects will result (Surette, 1998:2007).

These notable limitations therefore leave several questions unaddressed. For example: *Is* CSI *viewing an adequate measure of* CSI*'s effects? Are perceptions of the accuracy and necessity of forensic science affected by one's social location, life experiences, and exposure to other forensic science-related media?* In other words, *do these factors, currently unaccounted for in existing CSI effect research, affect public perceptions of the accuracy and necessity of forensic science?*

CHAPTER SUMMARY

Academic readings of the *CSI* programs underscore how the series' represent forensic evidence and scientific technology as the bearer and the facilitator of truth, respectively. Scholars note how *CSI* privileges the scientific enterprise as accurate and exacting and therefore necessary to rendering conclusions of guilt ostensibly unfettered by bias, partiality, and error.

CSI effect claimants assert that *CSI* viewing blinds jurors to the circumstances under which forensic science is warranted. They furthermore assert that *CSI* not only affects perceptions of forensics, but that the programs skew viewer perceptions to such a degree that they also effect behavioral changes, manifest in inappropriate verdicts. Yet as noted, only minimal support for these claims has been found. The Maricopa County report is the only study able to offer negligible support for the claim that juror perceptions are informed by *CSI* viewing *per se* (by virtue of only one example of a

single juror whose perceptions were skewed by *CSI*), and only Watkins' findings support the claim that inappropriate verdicts may have resulted from these television-based (mis)perceptions. Even the seemingly more "rigorous" CSI effect studies have failed to account for additional factors which may have affected respondents' perceptions of forensic science.

My notation of these limitations is not meant to disparage the CSI effect research that has been conducted to date, but rather it is to underscore where further work is needed. As such, my analysis of *CSI*'s effects builds upon existing CSI effect literature by addressing several of the assertions made by CSI effect claimants and by responding to the noted limitations in CSI effect research. For example, by querying whether or not *CSI* viewing affects public perceptions of the accuracy and necessity of forensic science, my analysis allows me to respond more directly to CSI effect claimants' contentions that *CSI*'s depictions of the accuracy and necessity of forensic science translate into similar viewer perceptions. Similarly questioning whether or not other measures of *CSI*'s effects more adequately capture evidence of *CSI*'s influence upon public perceptions will allow me to offer a more thorough investigation into the CSI effect. Furthermore, by questioning whether or not factors *in addition to CSI* viewing affect public perceptions of forensic science, I am able to speak to (a) whether or not perceptions of the accuracy and necessity of forensic science are affected by more than just *CSI* viewing, and (b) whether or not these perceptions are affected by *CSI* viewing at all.

While my analysis incorporates consideration of several additional factors currently unaccounted for in CSI effect research, it also contextualizes the CSI effect by situating *CSI* within a broader and media-saturated social system. Examining the CSI

effect in view of this larger context suggests that these "effects" and the causes for them may be promoted by more than mere passive *CSI* viewership. This contextualization of the CSI effect occurs in the following chapter in which I outline the theoretical framework underlying my analysis.

CHAPTER TWO – Theoretical Framework

CSI effect claims are essentially premised on the notion that *CSI*-viewing jurors are passive recipients of the shows' representations of forensic science, a notion reminiscent of the "hypodermic needle" theory of audience reception long ago abandoned by communications researchers (Ball-Rokeach & DeFleur, 1976; DeFleur & Ball-Rokeach, 1989; Morley, 1989).[11] What is unreasonable about this notion is not that media representations may to some degree affect viewer perceptions of forensic science, but the assertion that a series of programs is solely and entirely responsible for them. The latter position has already been challenged by Podlas and Shelton et al. whose findings are suggestive of a shift in public perceptions of forensic science that extends beyond *CSI*'s "effects."

CSI effect claims, and indeed, CSI effect studies are limited by a failure to situate *CSI*'s "effects" within a larger media(ted) and social context, a gap in existing CSI effect research that my study addresses. Media dependency theorists Sandra J. Ball-Rokeach and Melvin L. DeFleur contend that investigations into media effects often fail to consider "both the media and its audiences as integral parts of a larger social system" (1976:4) and therefore suggest that recognition of the relationship between society, media, and audiences "individually, interactively, and systemically" allows for a more thorough investigation and interpretation of media effects (5).

[11] In essence, this theory of audience reception suggests that the media has the power to "inject" audiences "with particular messages which will cause them to behave in a particular way" (Morley, 1989:16). This type of theory suggests that audiences are passive and uncritical receivers of media messages, and theorizes media effects in terms of a "relatively straightforward stimulus-response" mechanism (DeFleur & Ball-Rokeach, 1989).

What follows is discussion of media dependency theory, the theoretical framework that I have chosen to ground my analysis.[12] This framework fits well with the aims of my thesis as it suggests regard for the *CSI* programs as but one source of forensic science information circulating within a broader socio-cultural milieu whose effects are contingent upon more than mere program viewership. I first explain the theory in brief, and then demonstrate how I have adapted its theoretical premises to conduct my analysis of *CSI*'s effects.

MEDIA DEPENDENCY THEORY: AN OVERVIEW

Media dependency theory essentially provides a broad-based conceptual framework for predicting and interpreting media effects. The premises of the theory are such that media effects are more likely to occur when two conditions are met: when systemic conditions heighten dependence upon the media, and when audience members' preexisting socially constructed realities about a particular subject are inadequately informed by non-media sources.

Ball-Rokeach and DeFleur contend that media dependency is heightened (a) in times of social change occurring within the social system, (b) when the media system serves several unique and central functions, and (c) when audiences rely upon the media

[12] Media dependency theory, sometimes referred to as *media system dependency theory* was first introduced by Ball-Rokeach and DeFleur in 1974 at the Annual Meeting of the American Sociological Association. Since the theory was first published in 1976 (titled *A Dependency Model of Mass Media Effects,* see the bibliography), the theorists have further developed various aspects and conceptual elements of the theory (see Ball-Rokeach, 1985; Ball-Rokeach & Cantor, 1986; Ball-Rokeach, Rokeach & Grube, 1984; DeFleur & Rokeach, 1989). Although I borrow certain general concepts from these later writings, my theoretical framework is built primarily upon the broader overarching premises of the theory presented in the 1976 paper.

to satisfy various information goals relating to understanding (both self and social), orientation (toward action or interaction), and play (both solitary and social).[13]

As such, heightened media dependency conditions essentially 'set the stage' for a media effect to occur. However, whether or not a particular media effect is produced is contingent upon audience members' preexisting socially constructed realities pertaining to a subject when they encounter media messages relating to it. Ball-Rokeach and DeFleur therefore assert that media effects can be predicted and explained when considering media dependency conditions *in relation to* audience members' social realities.

Applying Media Dependency Theory to an Examination of *CSI*'s Effects

Although media dependency theory is largely conceptual in nature, its premises are nevertheless adaptable to my examination of *CSI*'s effects. As such, I have adapted this theory within my analysis both conceptually and methodologically. My application of media dependency occurs in two parts, corresponding with the two conditions said to produce media effects (heightened media dependency and preexisting socially constructed realities). In the first part, I assess the plausibility of a CSI effect by conducting a *conceptual* analysis of the theoretical conditions under which the public may be dependent upon the media for forensic science-related information. In the second part, I discuss several social constructs (which are later *methodologically* operationalized

[13] Particularly in lieu of the latter information goals, it is important to note here Ball-Rokeach and DeFleur's conceptualization of the word "information." In relation to media dependency theory, they assert that use of this word is not intended in a 'factual' sense, such that "'news' is informational whereas 'entertainment'[media] is not." They assert that this strict use of the word ignores the fact that entertainment media is often used by people "to understand themselves, their world, or the many worlds beyond their direct experience, and to orient their own actions and their interactions with others." They therefore assert that the word "information" should be understood with these broader conceptions in mind, wherein all messages, regardless of their generic classification, have the potential to affect "how people think, feel, and act" (1989:303-304).

and examined) that may inform audience members' socially constructed realities or perceptions of forensic science. Such constructs include audience members' social location, forensic science-related life experiences, and exposure to media relating to forensic science which includes, but is not limited to, *CSI*. (The methodological application of these constructs within my analysis are detailed in Chapter Three.)

This discussion occurs in two parts because the premises of media dependency theory as noted, suggest that although heightened media dependency conditions may 'set the stage' for the CSI effect to occur, merely outlining the conditions under which the public may be dependent upon *CSI* for forensics-related information is insufficient; media effects are only evidenced and explained by virtue of their relation to audience members' socially constructed realities. As such, a thorough analysis of *CSI*'s effects necessitates an examination that controls for other effects which may be produced by audience members' preexisting social constructions of forensic science (e.g., social constructs whose effects preexist those brought about by *CSI* viewing). Therefore, should a CSI effect emerge, media dependency theory allows me to speak to the theoretical conditions that may have promoted public dependence upon *CSI* for forensics-related information, and explicate this media effect as one which occurs independent of audience members' preexisting social constructions of forensic science.

Theoretical Conditions Heightening Public Dependence on the Media for Forensics-Related Information

The following discussion concerns the theoretical conditions under which the public may be dependent upon the media (including, but not limited to *CSI*) for forensic-science related information due to (a) the changes that innovations in forensic science have promoted in the social system, (b) the media system's capacity to disseminate

information pertaining to forensics, and (c) audience members' varied reliance upon this media to satisfy their understanding, orientation, and/or play-related goals.

The Social System: Social Change and Ambiguity

Ball-Rokeach and DeFleur contend that people's dependence on media information resources will intensify in times of social change. They maintain that this is because "challenges to established institutions, beliefs, or practices" (1976:7) characteristic of social change can promote a sense of "ambiguity" wherein "people lack enough information to create stable meanings of events" (1989:315). As such, people will become increasingly reliant on the media for information to substantiate their understanding of these events. Ball-Rokeach and DeFleur note that the rapid rate of change that our society consistently undergoes tends to promote a state of "chronic ambiguity" which therefore results in "ongoing dependency relations" with the media system (316).

This condition of dependency situates public perceptions of forensic science within a broader social context, in a climate in which advances in forensic science arguably represent changes within and to our social system. For example, relatively recent scientific developments have yielded advanced criminal identification measures such as DNA analysis, a scientific application that has often been pivotal in both the exoneration and conviction of criminal defendants. Yet research indicates that the public's understanding of concepts such as DNA may indeed be somewhat ambiguous. Over the past decade, studies of American adults reveal that only 40 percent are able to offer even "a minimally correct explanation of the meaning of DNA" (Miller 2004:208). Furthermore, research suggests that the public's understanding of science and technology in general is relatively low, and has remained so for decades (Gregory & Miller, 1998).

Research conducted by the National (American) Science Board indicates that in 2004, approximately one third of the population surveyed considered themselves poorly informed about new scientific discoveries, inventions, and technologies (2006, 7-16).[14] Yet this research also reveals that public understanding of these issues is growing, due in large part to media representations and coverage of topics such as DNA, and due to the *CSI* programs themselves (Gregory & Miller, 1998; Miller, 2004; National Science Board, 2006). The outcomes of this research therefore suggest that if the public does experience a sense of forensic science-related ambiguity, media resources may in fact assist in resolving it.

The Media System: The Number and Centrality of Information Functions Served by the Media

Arguably, the media's ability to both broadcast information about such social changes, and to reduce the ambiguities that flow from them, is a product of the numerous functions the media system is able to serve, the second condition of media dependency outlined in media dependency theory.

Ball-Rokeach and DeFleur maintain that in addition to changes present in the social system, media dependency is also heightened by the several "dependency-engendering" (1989:303) functions served by the media system. They maintain that the media system's ability to expeditiously gather and create, process, and disseminate vast amounts of information, may result in increased audience dependency upon it for

[14] I acknowledge that various socio-cultural and demographic differences between Canadian and American populations limit the weight carried by these American National Science Board statistics in a study conducted in Alberta, Canada. Therefore although these findings pertaining to Americans may not be entirely applicable to a Canadian population, their inclusion is not meant to imply an uncritical generalization of American findings to Canadian research. Rather, these statistics have been included because of their topical relevance to the current discussion (and the absence of similar Canadian research) with the caveat that various socio-cultural and demographic differences will moderate the extent to which these same outcomes would be found within a Canadian population.

information which is otherwise more difficult to access. Ball-Rokeach and DeFleur also assert that media dependency is related to the centrality (or importance) of the information, something that will vary across time, circumstance, and between individuals (1976:6).

These considerations of the number and centrality of media functions assist in contextualizing general public dependence upon the media for forensic science-related information. For example, the media system's capacity to collect, sort, and circulate information about forensic science can render it a primary resource for members of the public who otherwise lack in/direct exposure to it. This assertion is supported by research indicating that the leading sources of public information pertaining to science and technology are media sources, such as television, the internet, newspapers, and magazines (*National Science Board,* 2006).

Ball-Rokeach and DeFleur note that audience dependency upon such media will vary by the individual and/or the social centrality of the media functions, or how important this information is deemed by individuals or society as a whole (1976:6). For example, information about forensics may be more central for instance, to those who have been charged with or victimized by a criminal event involving forensic evidence, to those who work in fields relating to forensics, or, to those who simply tend to be interested in (forensic) science and/or crime-related matters and/or media. Similarly, information about forensic science may be more socially central at times in which it has become a popularly-discussed social issue, as was the case during the O.J. Simpson trial, and during the Clinton and Lewinsky scandal in the nineties (Hayes, 2004; Poniewozik & Berestein, 2002). Interestingly, journalistic writing about the *CSI* programs suggest that

the "geek chic" (Willing, 2004; Zickefoose, 2006) appeal of the franchise has itself made forensic science an increasingly popular and thus socially central subject.

In summary, in addition to a social system characterized by a sense of "ambiguity" pertaining to issues of forensic science and technology, dependency upon the media for forensics-related information may also be heightened by the media's capacity to gather and create, process, and disseminate such information, and by the centrality of forensics-related information to society and/or particular audience members. Yet while these conditions may heighten the public's dependence on the media in order to understand particular issues or events, and/or to accommodate science and/or crime related interests, Ball-Rokeach and DeFleur contend that audience dependency takes several forms, social understanding and solitary play representing just some of them. These differing forms of audience dependency are therefore discussed below.

Audiences: Differing Dependency Relations

Rounding off the triad of media dependency considerations is regard for the dependency relations audiences have with the media. In this respect, although the social climate might involve a sense of ambiguity pertaining to forensic scientific issues, and one in which the media may generally serve as a primary delivery system for this information, audience members' dependency relations will differ in terms of the information goals they bring to their exposure to forensic science-related media.

Ball-Rokeach and DeFleur assert that information goals tend toward the satisfaction of three broad goal orientations: self and/or social *understanding* (learning about oneself, understanding the social world), action and/or interaction *orientation* (deciding how to act oneself, how to act in relation with others) and solitary and/or social *play* (relaxing alone, socializing with others) (1976, 1989). For some, dependence upon

the media may involve a conscious pursuit of these goals, whereas for others this dependence may be latent in the sense that understanding, orientation, and/or play are not goals actively sought, but nevertheless achieved by virtue of media exposure.

These differing information goals also serve to contextualize dependence upon the media for forensic science-related information, because they demonstrate differing types and degrees of engagement with forensics-related media. For example, people will turn to a variety of media forms with various dependency relations because they meet goals relating to understanding, orientation, and/or play that may or may not directly relate to an acquisition of information pertaining to forensics. For those who selectively expose themselves to forensic-related media, the achievement of these goals may be driven by an interest in forensic science, again, for reasons which may relate to understanding, orientation, and/or play. For others, exposure to forensic-related media may be incidental, occurring by virtue of the pursuit of goals unrelated to a particular interest in forensic science. Whether or not exposure to this forensics-related media (whether selective or incidental) effects a change in audience members perceptions[15] of forensic science is related to the nature of their preexisting social realities concerning forensic science. As noted earlier, it is these socially constructed realities *in relation* to media dependency that

[15] While the media dependency framework may be applied to predict and interpret affective and behavioral effects as well, my focus on public *perceptions* of forensic science limits my analysis to an examination of cognitive effects, as noted earlier. Although Ball-Rokeach and DeFleur note that "it is difficult to imagine the cognitive effect of attitude formation without accompanying affective effects" (1976:15), the scope and nature of my study precluded inclusion of an affective dimension of public perceptions of forensic science. Similarly, my study does not examine behavioral effects, because a study that truly estimated behavioral CSI effects would investigate the "end product of elaborate cognitive ... effects," or the ways in which perceptions of forensic science would actually manifest themselves in a jury verdict. According to Ball-Rokeach and DeFleur, only then would it be possible to conclude whether or not (*CSI* viewing) audience members were prompted to "do something [such as rendering an ostensive 'improper verdict'] that they would not otherwise have done as a consequence of receiving media messages" (16).

allows for a more contextualized explication of media effects. Discussion of these social realities and the theoretical constructs that inform them therefore follows below.

The Social Constructs Informing Public Perceptions of Forensic Science

Social constructionists maintain that we are both creators and products of the social world, engaged in a dialectical process of reality construction developed by virtue of our social interactions, both real and symbolic (Adoni & Mane, 1984, Surette, 1998). Our experienced or lived realities are formed on the basis of events that happen to us directly, through all that we have experienced or witnessed ourselves and therefore believe to be true. Our symbolic realities also consist of what we believe to be true, but this reality is composed of what we have experienced only indirectly through interactions with significant others, social groups and institutions, and through what we learn from the media. Because the knowledge that we acquire directly tends to be relatively limited, most of what we take to be real and true is largely attained symbolically, rather than directly (Surette, 1998:7). Our knowledge of forensic science is no exception.

Some of us may have lived experience with forensics if, for example, we have sat on a jury in a criminal trial where forensic scientific evidence was presented, or if we have been involved a criminal event where we have witnessed the use of forensic scientific evidence. We may have acquired information about forensic science from courses we have taken or the work that we do, and/or from significant others who have helped shape our symbolic realities by virtue of their exposure to forensics. The information obtained from these sources tends to be more influential than information acquired from the media; however, as our access to these sources decreases, the media's importance to us as an information source increases (Surette, 1998:7).

Our reliance upon the media to satisfy our various information goals, however, also occurs in relation to our social location. Therefore, our encounters with media messages pertaining to forensics will be mediated to some degree by our respective ages, our gender, our education, and our socioeconomic status, factors which also often relate to our life experiences in terms of the lifestyles we lead, the work that we do, and the people that we know. As noted above, the information that we acquire from these social institutions and groups is more influential than that which we obtain from the media. However, a wealth of research reflects the fact that the media too can serve as a powerful socializing agent. Therefore, our perceptions of forensic science may be affected by the types of forensics-related media that we have been exposed to (including, but not limited to *CSI*), the extent of this exposure, and by our perceptions of its credibility.

In my examination of *CSI*'s effects, I operationalize these constructs which serve as controls for the effects of research participants' preexisting social realities of forensic science. *CSI* is then entered into the analysis as a social construct whose effects upon participants' perceptions are unknown and therefore examined. In the following chapter, I detail this examination by discussing my methodology and the means by which I have chosen to operationalize these constructs and analyze *CSI*'s effects.

CHAPTER SUMMARY

Applying media dependency theory to my analysis allows me to situate *CSI*'s potential effects within a broader context than that which currently characterizes existing CSI effect research. I am able to theoretically contextualize the potential for a CSI effect in terms of a social world characterized by ambiguous understandings of forensic science-related concepts, and by a media system able to disseminate what for some, may

amount to otherwise relatively inaccessible information. Furthermore, the plausibility of a *CSI* effect appears heightened when considering *CSI*'s popularity, coupled with its particular focus on forensic science which arguably renders it the most broad-reaching forensic science media information resource accessed by the public.

Media dependency theory therefore contributes an essential socio-cultural contextualization to CSI effect research that is currently lacking. For example, locating the conditions under which a CSI effect may occur demonstrates that potential misperceptions about the accuracy and necessity of forensic science may not be limited to "incredibly stupid" jurors. Instead, these conditions suggest that if evidence of a CSI effect emerges, it is an effect that is interpretable in light of social ambiguities, *CSI*'s accessibility and the various functions it serves, and differing types of audience engagement with the *CSI* programs, rather than an effect confined to notions of viewers who simply "don't have a lot of brain cells."

Similarly, media dependency theory's consideration of these theoretical conditions *in relation to* the socially constructed realities of audience members allows me to broaden the scope of CSI effect research. By analyzing and controlling for additional constructs that may inform public perceptions of the accuracy and necessity of forensic science, I am able to speak directly to other potential effects which have only been postulated in existing research. For example, while Shelton et al.'s results led them to conclude that *CSI* viewers and non-viewers shared similar perceptions of forensic science, their acontextual approach left them able only to speculate about the effects of other media (in terms of the "tech effect" they posited). My examination's inclusion of variables pertaining to demographics, forensic-related life experiences, and forensic

science-related media including, but not limited to *CSI,* will allow me describe the factors that do affect public perceptions of the accuracy and necessity of forensic science, and therefore contexualize these perceptions, regardless of whether or not they are in fact "*CSI* effected."

This discussion of the theoretical conditions heightening public dependence upon media sources such as *CSI* for information about forensic science has set the conceptual stage for a CSI effect to occur. However, a CSI effect can only be evidenced and explained in light of the relationship between this theoretical dependence and evidence of *CSI*'s effects that are independent of other potential effects engendered by audience members' preexisting social constructions of forensic science. I discuss how I have operationalized both these social constructs and *CSI*'s effects in further detail in the following chapter which outlines my methodological approach.

CHAPTER THREE – Methodological Approach

In the Introduction, I note that CSI effect research supports the notion that the public may hold several misperceptions about forensic science, but that *CSI*'s role in effecting these perceptions remains unclear. This research problem led me to focus my examination on the linkage between *CSI* viewing and public perceptions of forensic science. In Chapter One, I then discussed the assertions of CSI effect claimants that *CSI*'s depictions of forensic science as irrefutably accurate and therefore necessary in determining criminal guilt leads *CSI* viewing jurors to believe the same. These assertions led me to query *CSI*'s effects upon public perceptions of the accuracy and necessity of forensic science, in particular. The contentions of CSI effect claimants also led me to question whether or not *CSI* viewing alone effected these (mis)perceptions.

My review of existing CSI effect studies prompted my next set of research questions. CSI effect researchers' exclusive use of *CSI* viewing as a measure of its potential effects led me to question whether or not *CSI* viewing offers the most adequate measure of *CSI*'s effects. The review also underscored several important media effect considerations which had not been accounted for in this body of research, such as whether or not respondents' perceptions of forensic science might be affected by their social location, their life experiences relating to forensics, and their exposure to forensic science-related media including, but not limited to, *CSI*.

In the last chapter, I discussed media dependency theory which holds that a thorough analysis of media effects calls for an examination which controls for the effects of audience members' preexisting social constructions before a media effect can be concluded. The previously unexamined factors pertaining to social location, exposure to

forensic science by virtue of lived experiences and exposure to other forensics-related media therefore serve as the effects controlled for in my analysis of *CSI*'s effects. These considerations have culminated in my methodological approach which is discussed below. In this discussion, I describe my data set and the method used to collect the data; I then provide a more detailed discussion of the control and variables included in my analysis, and the analytical method I use to conduct my examination.

SURVEY DATA

My dataset is derived from information collected in the *2006 Alberta Survey* conducted by the Population Research Laboratory (PRL) at the University of Alberta. This 25-35 minute random sample telephone survey was administered by trained interviewers using the computer-assisted telephone interviewing (CATI) system over the course of 6 weeks in the spring of 2006.

Conducted annually by the PRL since 1987, the survey is composed of questions pertaining to demographics as well as questions submitted by "academic researchers, government departments, and non-profit organizations to explore a wide range of research topics in a structured research framework and environment" (PRL, 2006: 2). In addition to questions about forensic science which I designed for the purposes of this research, the 2006 survey also involved questions pertaining to other substantive topics such as climate change, neuropathic pain, physical activity, and genomics research.

RESPONDENTS

A total of 1207 respondents participated in the 2006 survey. The sample consisted of Alberta adults, both male and female, drawn from three geographic regions: the Edmonton metropolitan area, the Calgary metropolitan area, and the remainder of the

province.[16] All respondents were over 18 years of age, with male and female respondents equally represented. The PRL's sampling design also ensured an equal selection of respondents from each of the three regions surveyed.[17]

GENERALIZABILITY

Using the index of dissimilarity to measure sample representativeness, the PRL found that the survey sample reflected the Alberta population from which it was drawn with less than 10 percent variation overall (PRL, 2006:11-12). My discussion of "public" perceptions should therefore be taken generalizable to and reflective of an "Alberta, Canada" public.

SAMPLE RESTRICTIONS

Although the survey involved a total of 1207 participating respondents, only 844 and 836 respondents were included in my analyses, respectively. Respondents who failed to respond to all of the relevant survey questions were excluded from the analyses because the missing values resulting from their incomplete responses are incompatible with a complete statistical analysis. As such, only respondents who provided answers to all of the relevant survey questions were included in the analyses.

VARIABLES INCLUDED IN THE ANALYSES

In addition to the discussion below, Table 1 offers a synopsis of the labeling, coding, and order of entry of the variables included in my study.

---

[16] With respect to the response rate, the PRL calculated the rate of response for this survey using two different methods, yielding rates of 42.5% and 28.9%, respectively. (In both calculations, the number of completed interviews is divided by a series of dispositions; the second response rate is lower because the number of dispositions included in the denominator was greater.) The Sampling Report notes that response rates have been declining in recent years due to a general public reluctance to participate in surveys, which may be because of an increase in telephone solicitation and call screening facilitated by call-display equipped telephones (7-8).

[17] My analysis weighted the representation of these three regions equally.

Table 1: Regression Variables and Coding Key

REGRESSION VARIABLES AND CODING KEY

DEPENDENT VARIABLES	**CODING**	
Accuracy Regression		
Accuracy of Forensic Science	continuous	range='always inaccurate' to 'always accurate'
Necessity Regression		
Necessity of Forensic Science in Concluding Criminal Guilt	continuous	range='completely unnecessary' to 'completely necessary'
PREDICTOR VARIABLES		
MAIN EFFECT		
CSI Viewing	dichotomous	1=typically watches *CSI*
CONTROL VARIABLES		
Demographic Variables		
Age	continuous	range=18+
Age^2	continuous	quadtratic term to test for nonlinear relationship
Gender	dichotomous	1=male
Years of Schooling	continuous	range=0-25+ years of schooling completed
Household Income	continuous	range=under $6000 through to $150,000+/annum
Life Experience Variables		
Education and/or Work	dichotomous	1=learned about forensic science from courses taken, work in, and/or knowing someone in a related field
Experience Crime	dichotomous	1=learned about forensic science from having experienced or knowing someone who has experienced a crime
Sat on Jury	dichotomous	1=learned about forensic science from having sat on a jury
Other Media Variables		
News	dichotomous	1=learned about forensic science from the news
Books	dichotomous	1=learned about forensic science from books
Internet	dichotomous	1=learned about forensic science from the internet
Documentaries	dichotomous	1=learned about forensic science from documentaries
Entertainment Media	dichotomous	1=learned about forensic science from other television crime dramas and/or from movies
FOCAL VARIABLES		
***CSI* Specific Variables**		
Learned from *CSI*	dichotomous	1=learned about forensic science from *CSI*
Amount of FS Knowledge from *CSI*	continuous	range=0%-100% of forensic science knowledge from *CSI*
Depiction of FS & Technology	dichotomous	1=perceives *CSI*'s depictions to be accurate
Depiction of CSIs' Expertise	dichotomous	1=perceives *CSI*'s depictions to be accurate
Additional Predictor in Necessity Regression		
Accuracy of Forensic Science	continuous	range='always inaccurate' to 'always accurate'

FS = "forensic science"

Dependent Variables

The dependent variables used in my analyses are driven by the earlier noted research question: *Does* CSI *viewing affect public perceptions of the accuracy and necessity of forensic science?* As such, the dependent variables concerned respondents' perceptions of the accuracy of forensic science (*Accuracy of Forensic Science*), and the necessity of

forensic science in concluding criminal guilt (*Necessity of Forensic Science*), respectively.

With respect to the analyses of perceptions of the accuracy of forensic science, respondents were asked, "In general, how accurate do you think forensic science is?" Their perceptions were measured in terms of a five-point scale where response categories included "always inaccurate," "usually inaccurate," "accurate," "usually accurate," and "always accurate."

In terms of the analyses of perceptions of the necessity of forensic science in concluding criminal guilt, respondents were asked "How necessary is forensic science in order to conclude a person's guilt of a violent crime? For example, homicides, assaults, and sexual assaults" and "How necessary is forensic science to conclude a person's guilt of a non-violent crime? For example, theft, motor vehicle theft, or burglary." Respondents' perceptions were also measured in terms of a five-point scale where response categories included "completely unnecessary," "somewhat necessary," "necessary," "usually necessary," and "completely necessary." Respondents' answers to the latter two questions were then combined to create an *aggregate* measure of necessity perceptions to capture respondents' more generalized perceptions of the necessity of forensic science in concluding criminal guilt. The reliability of this aggregate variable falls within the moderate range of reliability, indicated by a Chronbach's Alpha of 0.5888.

Predictor Variables

The "Main Effect" of CSI Viewing

This first focal variable, *CSI Viewing,* serves as the main effect in my analysis and is driven by the research question: *Is* CSI *viewing* alone *a significant and substantial predictor of public perceptions of the accuracy and necessity of forensic science?*

In order to capture the frequency of respondents' *CSI* viewing, they were asked to consider their weekly television viewing habits, and were then posed the question "How many episodes, on average, do you watch of the *CSI* shows? This includes *CSI* in Las Vegas, *CSI: Miami*, and/or *CSI: New York*." The response categories allowed respondents to indicate whether or not they watched an average of "1-2 shows," "3-4 shows," "5-6 shows," "7-8 shows," "9 or more shows" or no episodes ("none") of *CSI* on a weekly basis. The "*CSI* Viewing" variable therefore represents a recode of this viewing frequency variable. As such, "*CSI* viewers" were coded as those who watch between 1 and 9 or more shows per week, and "non-viewers" were coded as those who did not indicate regular viewership. Therefore, more precisely stated, the "*CSI* viewers" category reflects respondents who self-identified as regular, weekly *CSI* viewers, and the "non-viewers" category of respondents encompassed those who do not watch the programs at all, as well as those who only watch *CSI* on an irregular or non-weekly basis.

Control Variables

The inclusion of the following control variables in my analyses is driven by the research question: *What other factors currently unaccounted for in existing CSI effect research affect public perceptions of the accuracy and necessity of forensic science?*

Demographic Variables

The demographic variables included in my analyses concerned respondents' age, gender, education, and total household income. Age was measured in two respects. The first variable (*Age*) measure respondents' age in years, and controlled for a linear effect of age upon respondents' perceptions. A quadratic age variable (Age^2) was also included in the analysis wherein the age variable was squared in order to control for a non-linear effect of age upon respondents' perceptions. Gender was measured in terms of a dichotomous variable (*Gender*). Respondents' level of education was measured by the number of years of schooling they had completed, which included the total number of years spent in grade school, high school, vocational school, technical school, and University (*Years of School*). Respondents' income was measured in terms of their total household income for 2005 before taxes and deductions (*Household Income*). Their responses were captured on a continuous scale where responses were categorized as follows: "Under $6,000;" income between $6,000 and $39,999 was captured in intervals of $1,999 (e.g., $6,000-$7,999 to $38,000-$39,999); income between $40,000 and $99,999 was captured in intervals of $4,999; and the final categories captured total household income as "100,000-$124,999," "$125,000-$149,999," and "$150,000."

Learning About Forensic Science From Life Experiences

The "Life Experience Variables" included in the analysis measured whether or not respondents had learned about forensic science from several listed life experiences. All of these experiences were measured in terms of dichotomous responses (i.e., "yes" or "no"). As such, respondents were asked whether or not they had learned about forensic science from educational courses they have taken, from working in or knowing someone

in a related field (*Education and/or Work*), from having experienced or known someone who had experienced a crime (*Experience Crime*), and, from having sat on a jury (*Sat on Jury*).

Learning About Forensic Science From Other Media

The "Other Media Variables" measured whether or not respondents had learned about forensic science from several listed media sources. Again, all responses were dichotomous. Respondents were asked whether or not they had learned about forensics from the news (*News*), books (*Books*), the internet (*Internet*), documentaries (*Documentaries*), other fictional crime shows, and, movies (*Entertainment Media*).

Focal Variables

CSI Specific Variables

My inclusion of these *CSI* specific variables is driven by the research question: *Is* CSI *viewing an adequate measure of* CSI*'s effects?*

The "CSI Specific Variables" measured respondents' own assessments of having learned from the *CSI* programs, and how accurate they feel *CSI*'s depictions are. As such, respondents were asked whether or not they had learned about forensic science from watching the *CSI* programs (*Learned from* CSI); respondents' answers were dichotomous. Respondents were also asked "What percentage of your knowledge about forensic science comes from the *CSI* TV shows?" (*Amount of FS Knowledge from* CSI). Respondents' answers ranged from zero to 100 percent, but were recoded into a variable that represented this knowledge in ten percent intervals (i.e., "1-10%," "11-20%," etc.). Respondents were also asked whether or not they felt that the *CSI* programs offered accurate depictions of both the forensic science and technology used on the programs (*Depiction of FS & Technology*) as well as of the crime scene investigators' knowledge

and expertise (*Depiction of CSIs' Expertise*). These answers were coded dichotomously, as either "accurately" or "inaccurately."

While this set of variables serve as the final cluster of predictor variables included in my analysis of respondents' perceptions of the *accuracy* of forensic science, one further predictor is included in my analysis of respondents' perceptions of the *necessity* of forensic science in concluding criminal guilt.

Perceptions of the Accuracy of Forensic Science

Description of the *Accuracy of Forensic Science* variable is noted above, under "Dependent Variables." A dependent variable in the first part of my analysis, this variable serves as a predictor in my second analysis.

APPROACH TO DATA ANALYSIS

My approach involves primary analysis of the demographic and forensic-oriented data collected in *The 2006 Alberta Survey*. I conduct my analyses using hierarchical regression, a form of multiple regression wherein variables (individually or in clusters) are entered into the regression in an order determined by the researcher on the basis of previous research and theory.[18] This approach is well-suited to the aims of my study for several reasons.

First, multiple regression allows for the simultaneous consideration of several variables within a single analysis. As such, I am able to examine which of the variables included in my analysis serve as significant predictors of public perceptions of the accuracy and necessity of forensic science. Since my research design regards *CSI* as but

[18] Hierarchical regression is defined as "a method of multiple regression in which the order in which predictors are entered into the regression model is determined by the researcher based on previous research: variables already known to be predictors are entered first, new variables are entered subsequently" (Field, 2005:732-733).

one of several forensics-related constructs potentially informing public perceptions of forensic science, this approach permits me to examine *CSI*'s significance as an independent predictor of these perceptions while controlling for and noting other potential effects.

Second, because hierarchical regression provides for the assessment of changes to and the statistical significance of the amount of variance explained by the entry of each variable or variable cluster, I am able to speak to the relative improvement in explanatory power contributed by the predictors as they enter the analysis. As can be seen, the use of hierarchical regression modeling allows me to examine my research questions in the following methodological terms:

> Is the objective measure of *CSI* viewing alone a statistically significant predictor of respondents' perceptions of the accuracy and necessity of forensic science; and, is *CSI* viewing statistically significant subsequent to the entry of various theoretically-driven controls?
>
> Do respondents' subjective assessments of *CSI*'s effects serve as statistically significant predictors of their perceptions of the accuracy and necessity of forensic science; and, what is the nature of the relationship between these subjective measures and the objective (*CSI* Viewing) measure of *CSI*'s effects?

Finally, the premises of hierarchical regression are such that variables driven by previous research and/or theory are entered prior to variables whose effects are unknown (Field, 2005:160; Cohen & Cohen, 1983:120-121). Because my study concerns the social constructs informing public perceptions of forensic science while "testing for" the statistical significance of *CSI*'s effects, the control variables in my analysis are entered prior to the focal variables.

More specific discussion of the nature and structure of my approach follows below.

THE NATURE AND STRUCTURE OF THE REGRESSION ANALYSES

Dependent Variables

As noted earlier, CSI effect claimants suggest that the *CSI* programs' depiction of the accuracy of forensic science and its necessity in determining criminal guilt are messages unequivocally received by *CSI*-effected jurors. The overarching objective of my analysis is therefore to examine "*CSI*'s effects" upon respondents' perceptions of the accuracy of forensic science, and of the necessity of forensic science in concluding criminal guilt, respectively, while controlling for and noting other potentially significant effects. As such, my analysis involves two regressions. In the first regression analysis, respondents' perceptions of the accuracy of forensic science are regressed on the control and focal variables for the reasons outlined below. Similarly, the second regression analysis regresses respondents' perceptions of the *necessity* of forensic science in concluding criminal guilt on these same variables, in addition to the *Accuracy of Forensic Science* focal predictor.

Predictor Variables and Their Order of Entry

The "Main Effect" of CSI Viewing

Hierarchical regression typically involves the entry of control variables into the analysis prior to the entry of the focal variables. However because my first research question concerns the effect of *CSI* viewing *alone*, this variable is entered into the regression first. As such, my analysis begins at the level of existing research and queries whether or not – in the absence of other theoretically driven controls – *CSI* viewing alone indeed serves as a significant predictor of respondents' perceptions of the accuracy and

necessity of forensic science.[19] *CSI* viewing therefore serves as the "main effect" in my analysis, allowing me to examine its statistical significance both before and subsequent to the entry of additional controls.

Control Variables

Considerations of causal priority determined the entry order of control variables. Therefore, because respondents' social location theoretically precedes their life experiences, and their life experiences theoretically precede their media exposure/usage, the "temporal" ordering of the control variables led me to enter the variable clusters in the following order: "Demographic Variables," "Life Experience Variables," and "Other Media Variables."

Focal Variables

Subjective Measures of CSI's Effects

Whether or not respondents are *CSI* viewers is an objective measure intended to test the significance of viewing as a predictor of respondents' perceptions of forensic science. However, I wanted to add texture to my analysis by including subjective measures relating to *CSI* viewing as well. The inclusion of the variables pertaining to *CSI* as a forensic science information source indirectly measured respondents' own estimation

---

[19] Part of the theory driving the entry of these earlier variables pertains to their "causal priority." As such, variables considered "unlikely to be affected by more transitory states or traits" such as demographic controls are entered into the equation first in order to minimize the possibilities of variance misattributions. Because the explained variance attributable to the entry of additional predictors into the regression accounts only for the increase that occurs "beyond what has been accounted for by previous entered [predictors]," failing to consider causal priority when structuring the hierarchy of entered variables may result in the (mis)attribution of variance to a variable entered early into the model which may instead be an effect of a predictor entered later (Cohen & Cohen, 1983:120-121). This is precisely the quandary imposed by my choice to enter the "*CSI* viewing" variable previous to other theoretically "temporally prior" variables such as those pertaining to demographics and life experiences. The theoretical reasons motivating the entry primacy of this variable supercede this noted limitation, particularly after reviewing the regression results which confirm that this limitation is inconsequential to both the aims and outcomes of the analyses. Considerations of causal priority were not entirely abandoned however, as the remainder of the variable clusters were entered in an order with these determinations in mind.

of *CSI*'s "effects" on their forensic science knowledge. The variables pertaining to the programs' accuracy were included in response to literature noted earlier suggesting that the credibility of television content is seen as crucial to finding media effects.

In addition to the main effect of *CSI* viewing, these *CSI*-specific variables allow me to further examine whether or not more subjective assessments of *CSI* viewing serve as significant predictors of respondents' perceptions of the accuracy and necessity of forensic science.

While this set of variables serve as the final cluster included in the accuracy regression, one further predictor was entered into the necessity regression: the *Accuracy of Forensic Science* predictor.

Perceptions of the Accuracy of Forensic Science

As was indicated in Chapter One, CSI effect claimants imply that the relationship between perceptions of the accuracy of forensic science and perceptions of its necessity in determining guilt is one characterized by correspondence: the more accurate forensic science is perceived to be, the more necessary it is considered when concluding criminal guilt. However, this is not an essential correspondence. For example, respondents' may feel that forensic science is extremely accurate while feeling that its use is only necessary under particular circumstances and/or in particular crimes. As such, in order to examine respondents' sense of this correspondence, the dependent variable in the first regression becomes a predictor in the second.

CHAPTER SUMMARY

My analysis of *CSI*'s effects is informed by both theoretically and methodologically driven considerations. By controlling for factors unaccounted for in

existing CSI effect studies, my examination of the CSI effect represents a more thorough exploration of the effect than has been undertaken to date. The focus of my analysis upon perceptions of the accuracy and necessity of forensic science allows me to speak more directly CSI effect claimants' assertions that *CSI*'s depictions are uncritically received by *CSI* viewing jurors. Similarly, my incorporation of both objective and subjective CSI effect measures arguably contributes a more textured approach to examining this media effect, by mirroring existing measures and including a measure of respondents' own assessments of *CSI*'s effects. Methodologically, my approach also builds upon the limitations of earlier CSI effect research. My use of a multivariate analytical method allows me to consider several effects within a single analysis, assess the statistical significance of the variables included in the analysis, and examine the variables' relative explanatory power.

As a whole, this approach represents the most comprehensive exploratory analysis of the CSI effect conducted to date, if only because I have been able to address and build upon the fissures notable in previous studies. The results of my analyses are discussed in the following two chapters.

CHAPTER FOUR – Results: Perceptions of the Accuracy of Forensic Science

In this chapter, I discuss the results of the first part of my analysis: my examination of *CSI*'s effects upon public perceptions of the accuracy of forensic science. First, I provide a description of the sample population included in the analysis, followed by discussion of the regression results.

DESCRIPTIVE STATISTICS

An overview of the descriptive statistics are reflected in Table 2. A total of 844 respondents provided answers to all of the relevant survey questions and therefore remained in this analysis.

Dependent Variable

Perceptions of the Accuracy of Forensic Science

The vast majority of respondents felt that forensic science is "usually" or "always accurate" (59.7% and 25.7%, respectively). Thirteen percent of respondents felt that forensic science is "accurate," while 1.3 percent (11 respondents) and 0.6 percent (5 respondents) indicated that they felt forensic science is "usually inaccurate" or "always inaccurate," respectively.

Main Effect

CSI Viewing

Of the respondents included in the analysis, 57 percent of respondents were regular *CSI* viewers. Just over thirty-five percent of respondents indicated that, on average, they watch between one and two episodes of *CSI* weekly which was the viewership category most commonly selected by *CSI* viewing respondents.

Table 2: Accuracy Regression Descriptive Statistics

ACCURACY REGRESSION: DESCRIPTIVE STATISTICS

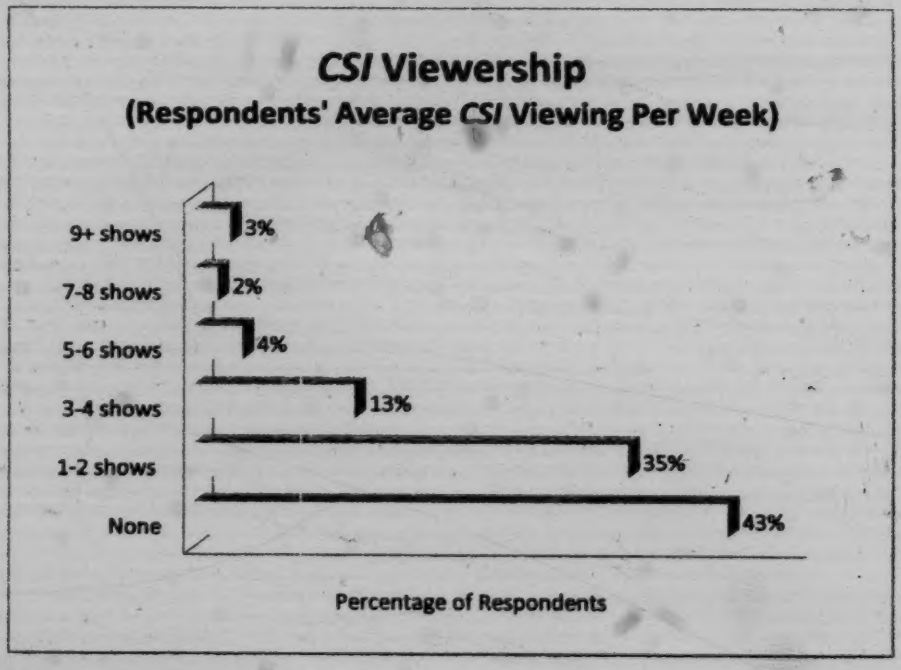
		N=844		
DEPENDENT VARIABLE				
Accuracy of Forensic Science	(continuous=always inaccurate to always accurate)	3.09	0.695	
PREDICTOR VARIABLES		**Mean**	**SD**	**%**
MAIN EFFECT				
CSI Viewing	1 = watches *CSI*	0.57	0.495	57.0
(composite variable*)	does not watch *CSI*			43.0
	watches 1-2 shows per week			35.4
	watches 3-4 shows per week			12.9
	watches 5-6 shows per week			3.9
	watches 7-8 shows per week			1.6
	watches 9+ shows per week			3.3
CONTROL VARIABLES				
Demographic Variables				
Age	(continuous = 18 to 90)	44.51	15.129	
Gender	1 = male	0.53	0.499	53.4
Years of Schooling	(continuous = 0 to 25+)	15.06	3.071	
Household Income	(continuous = under $6,000 to intervals)	Mean: $65,000 to $74,999		
Life Experience Variables				
Education/Work	1 = learned about FS from course, work, &/or other in field	0.43	0.495	57.2
(composite variable*)	learned about FS from course			17.5
	learned about FS from work			15.3
	learned about FS from someone in field			33.9
Experienced Crime	1 = learned about FS from experiencing crime	0.23	0.424	23.4
Sat on Jury	1 = learned about FS from being juror	0.05	0.225	5.4
Other Media Variables				
News	1 = learned about FS from the news	0.85	0.354	85.3
Books	1 = learned about FS from books	0.63	0.483	63.0
Internet	1 = learned about FS from the internet	0.29	0.454	28.9
Documentaries	1 = learned about FS from documentaries	0.84	0.366	84.1
Entertainment Media	1 = learned about FS from other fictional TV &/or movies	0.88	0.327	87.8
(composite variable*)	learned about FS from other TV			69.5
	learned about FS from movies			78.5
FOCAL VARIABLES				
***CSI* Specific Variables**				
Learned from *CSI*	1 = learned about FS from *CSI*	0.83	0.378	82.8
Amount of FS Knowledge from *CSI*	(continuous = 0, 1-10% to 91-100%)	2.80	3.268	
Depiction of FS & Technology	1 = *CSI*'s' depiction of FS & technology is accurate	0.46	0.499	46.3
Depiction of CSIs' Expertise	1 = *CSI*'s' depiction of CSIs' expertise is accurate	0.44	0.497	44.3

FS = "forensic science"

*composite variables are composed of the the variables without labels listed below it.

The second most common category consisted of viewers who watched three to four *CSI* episodes per week (13%). Only 9 percent of respondents indicated watching an average of five or more *CSI* programs on a regular weekly basis (see Figure 3).

Figure 3: CSI Viewership



Demographic Variables

The average respondent included in this analysis was 44.51 years of age, with a mean of 15.06 years of schooling, and had an average gross household income within the range of $65,000 to $74,999 in 2005. The analysis included a nearly equal representation of male and female respondents with 46.6 percent of the sample consisting of women, and 53.4 percent consisting of men.

Life Experience Variables

Nearly the same proportion of respondents had learned about forensic science from an educational course (17.5%) as did those who had learned about forensics from work in a related field (15.3%); these proportions are essentially doubled for respondents who had learned about forensic science from knowing someone who works in a related field (33.9%). Twenty-three percent of the respondents included in the analysis indicated

that they had learned about forensic science from having either experienced or known someone who had experienced a crime. Only 5.4 percent of respondents had learned about forensics from having sat on a jury. This is an unsurprising statistic given the relative infrequency of criminal jury trials both provincially and nationally.

Other Media Variables

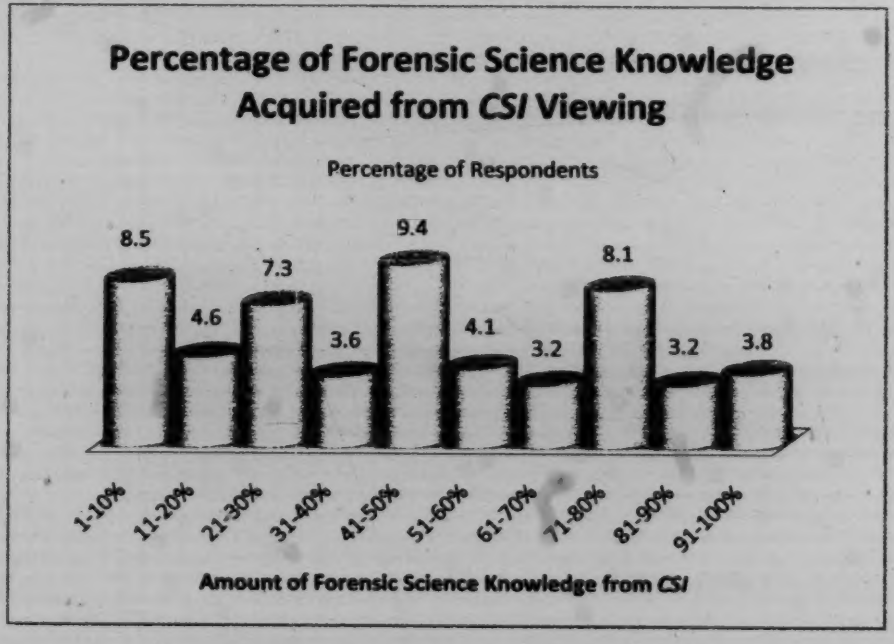
Far greater proportions of respondents learned about forensic science from various media than from related life experiences; over 80 percent of respondents indicated that they had learned about forensic science from the news (85.3%) and from television documentaries (84.1%). Entertainment media sources served as the third and fourth most common sources noted by respondents, with 78.5 and 69.5 percent of respondents indicating that they had learned from movies and crime dramas, respectively. Sixty-three percent of respondents indicated having learned about forensics from books, while 28.9 percent said they had learned about forensics from the internet.

These results roughly accord with available research. The (American) National Science Board's *2006 Science and Engineering Indicators* note that, as has been the case for decades, the primary source from which the public acquires its information about science and technology is television (41% of respondents cited television as their leading source of information). The report notes that a total of 28 percent of respondents indicated that newspapers (14%) and magazines (14%) served as their principal science and technology information sources, while only a small proportion (4%) of respondents noted their primary information source was a friend or colleague.

CSI Specific Variables

Interestingly, learning about forensic science from *CSI* is not contingent upon regular program viewership. While only 57 percent of respondents were regular *CSI* viewers, 82 .8 percent indicated that they had learned about forensic science from the *CSI* programs. No clear patterns emerged in terms of the percentage of their forensic science knowledge respondents' felt came from *CSI* viewing (see Figure 4). The most common responses fell between the ranges of 41 to 50% (9.4% of respondents), 1 to 10% (8.5% of respondents), and 71 to 80% (8.1% of respondents).

Figure 4: Respondents' Forensic Science Knowledge Acquired from CSI Viewing



As may be expected, viewing frequency was positively correlated with learning from *CSI* ($r=.365$, $p < .000$) and strongly and positively correlated with the amount of forensic science knowledge respondents felt that they had acquired from the *CSI* programs ($r=.601$, $p < .001$). *CSI* viewing frequency was also positively correlated with

learning about forensics from other fictional television crime dramas (r=.286, p < .001). Moreover, learning about forensic science from *CSI* was highly correlated with learning about forensics from other fictional crime dramas (r=.493, p < .000).

Just under half of the respondents indicated that the programs accurately depicted forensic science and technology (46.3%) and that the shows accurately represented the crime scene investigators' knowledge and expertise (44.3%). The positive correlation between these variables was expectedly high (r=.679, p=000), as were the correlations between respondents' *CSI* viewing frequency and their perceptions of the shows' accuracy in its depictions of forensic science and technology (r=.587, p=.000) and of crime scene investigators' knowledge and expertise (r=.589, p=.001).

REGRESSION RESULTS:
Perceptions of the Accuracy of Forensic Science

The results of the regression analysis are reflected in Table 3. As can be seen, most of the statistically significant variables remain as such across the different regression models. It is therefore possible to speak of the results in terms of the statistical significance of particular variables, as well as of each variable cluster and its contribution to the explanatory power of the overall regression.

Main Effect

CSI Viewing

Model 1 reflects respondents' perceptions of the accuracy of forensic science in the absence of controls pertaining to social location, life experiences relating to forensics, exposure to forensics-related media other than *CSI,* and the *CSI* specific variables. Therefore, when respondents are essentialized as viewers or non-viewers failing these controls, *CSI* viewing is a statistically significant predictor of respondents' perceptions of

Table 3: Accuracy Regression Results

REGRESSION RESULTS: PERCEPTIONS OF THE ACCURACY OF FORENSIC SCIENCE

VARIABLES N = 844 (standard errors)	Model 1 beta	Model 2 beta	Model 3 beta	Model 4 beta	Model 5 beta
MAIN EFFECT					
CSI Viewing	0.124 ** (.048)	0.101 * (.049)	0.094 (.049)	0.053 (.051)	-0.279 ** (.098)
DEMOGRAPHIC VARIABLES					
Age		0.020 * (.008)	0.019 * (.009)	0.020 * (.009)	0.018 * (.009)
Age^2		0.000 * (.000)	0.000 * (.000)	0.000 * (.000)	0.000 * (.000)
Gender		-0.123 * (.048)	-0.129 ** (.048)	-0.141 ** (.049)	-0.130 ** (.049)
Years of Schooling		-0.018 * (.008)	-0.019 * (.008)	-0.019 * (.008)	-0.017 * (.008)
Household Income		0.002 (.003)	0.002 (.003)	0.002 (.003)	0.002 (.003)
LIFE EXPERIENCE VARIABLES					
Education/Work			0.027 (.050)	0.027 (.051)	0.070 (.052)
Experienced Crime			0.120 * (.058)	0.121 * (.059)	0.121 * (.058)
Sat on Jury			0.026 (.107)	0.019 (.107)	0.024 (.106)
OTHER MEDIA VARIABLES					
News				-0.091 (.071)	-0.068 (.071)
Books				-0.038 (.053)	-0.025 (.053)
Internet				0.078 (.057)	0.091 (.057)
Documentaries				0.023 (.069)	0.001 (.069)
Entertainment Media				0.179 * (.080)	0.110 (.083)
CSI SPECIFIC VARIABLES					
Learned from *CSI*					0.211 ** (.080)
FS Knowledge from *CSI*					0.025 * (.012)
Depiction of FS & Technology					0.199 * (.095)
Depiction of CSIs' Expertise					-0.021 (.089)
CONSTANT	3.016 (.036)	2.918 (.208)	2.889 (.209)	2.784 (.221)	2.694 (.220)
R^2	0.008	0.027	0.034	0.043	0.066
Adjusted R^2	0.007	0.020	0.023	0.027	0.046
R^2 change	0.008	0.019	0.007	0.010	0.023
Sig. F change	0.010	0.005	0.133	0.131	0.000

* $p \leq .05$ ** $p \leq .01$ *** $p \leq .001$

the accuracy of forensic science (beta=.124, p= <.01).

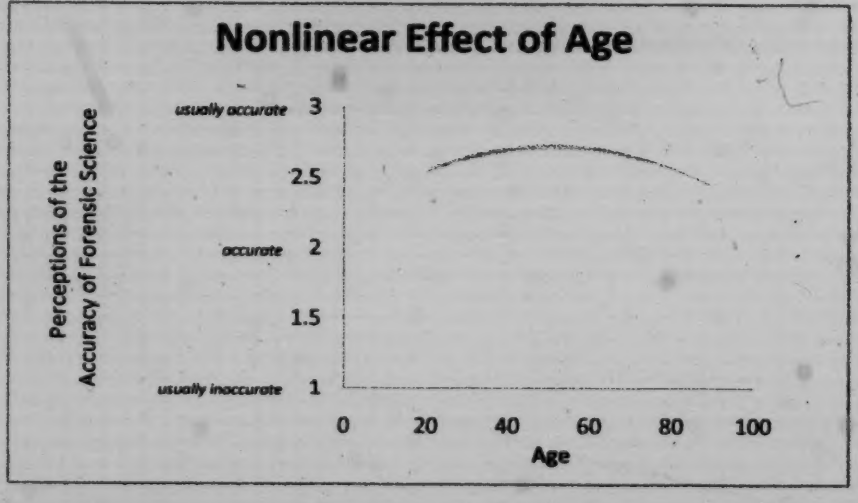
Control Variables

Demographic Variables

When demographic controls were entered into the analysis in Model 2, the results reveal that age, gender, and years of schooling all serve as statistically significant predictors of respondents' perceptions of the accuracy of forensic science.

The statistical significance of both the age term (beta=.020, $p < .05$) as well as the quadratic age term (beta=.0002, $p < .05$) suggest that the relationship between respondents' perceptions of the accuracy of forensic science and age is one characterized by nonlinearity. When predicted age scores were calculated and plotted, the data suggests that respondents' perceptions of the accuracy of forensic science tend to increase with age up until the approximate age of 50 after which they decrease with age. A graphic representation of this relationship can be found in Figure 5.[20]

Figure 5: Nonlinear Effect of Age on Perceptions of the Accuracy of Forensic Science



[20] This graphic representation is based upon the calculation of predicted age values where all predictors except for the age variables were assigned a constant value and multiplied by the partial regression coefficients yielded in Model 5.

The results further reveal that female respondents tended to view forensic science as more accurate than did male respondents (beta= –.123, $p < .05$), and that more educated respondents were less likely than less educated respondents to perceive forensic science as accurate (beta = –.018, $p < .05$).

The contribution of the demographic variable cluster to the variance explained by the regression is significant but minimal, evidenced in the negligible increase in explanatory power yielded by their introduction into the analysis (R^2=.027, R^2 change=.019). The enduring statistical significance of age, gender, and education across all of the models in which they were included indicates their independence of the other effects subsequently introduced into the regression.

Life Experience Variables and Other Media Variables

Of the three 'Life Experience Variables' entered into the analysis in Model 3, only one predictor, learning about forensic science from having experienced or known someone who has experienced a crime (beta=.120, $p < .05$), emerged as statistically significant. Similarly, the introduction of the five 'Other Media Variables' in Model 4 also resulted in a single significant predictor: learning about forensics from other fictional television crime dramas and/or movies (beta =.179, $p < .05$). The positive association between these predictors and respondents' perceptions of the accuracy of forensic science indicates that those who have learned about forensics from experience with crime and from entertainment media tend to perceive forensic science as more accurate than those who have not.

The finding that entertainment media is a positively associated predictor of respondents' perceptions of the accuracy of forensic science may be attributable to favorable representations of the accuracy of forensic science in popular media. For

example, fictional television crime dramas such as the *Law & Order* series routinely incorporate the use of forensic scientific experts, such as medical examiners and lab analysts, into the programs' storylines. The results of the experts' scientific analyses often serve as plot accelerants, used to hasten the detectives' pursuit of suspects on the basis of this indisputable evidence of their involvement in particular crimes. As such, forensic scientific evidence is represented as a "given," requiring no further confirmation unlike, for example, the claims made by witnesses and/or suspects.

Despite the significance of these predictors, neither of the variable clusters significantly contributed to the explanatory power of the overall regression model. The non-significant R^2 results of the models introducing the life experience variables (R^2 =.034, R^2 change= .007, p=.133) and the other media variables (R^2=.043, R^2 change=.010, p=.131) indicated that neither of the variable clusters significantly improved the variance explained in respondents' perceptions of the accuracy of forensic science.

Focal Variables

Revisiting the "Main Effect" of CSI Viewing Throughout The Models

When regarding the models in succession, it becomes evident that the significance of *CSI* viewing as a predictor of respondents' perceptions is contingent upon the control variables entered into the analysis. For example, as earlier noted, Model 1 indicates that *CSI* viewing is indeed a statistically significant predictor of respondents' perceptions of the accuracy of forensic science. *CSI* viewing remains a significant predictor when demographic controls are introduced in Model 2 (beta=.101, p= < .05), suggesting that the effect of *CSI* viewing is independent of respondents' social location. However when

further controls are introduced into the regression in Models 3 and 4, the effect of *CSI* viewing dissolves (beta $_{model\ 3}$=.094, p=.052; beta $_{model\ 4}$=.053, p=.296). These results therefore suggest that *CSI* viewing has no effect upon respondents' perceptions once controls pertaining to learning about forensic science from life experiences and from other forensics-related media are included in the analysis.

As such, if I had concluded my analysis with Model 1, my results would to some degree challenge the outcome of Podlas and Shelton et al.'s studies, and I could argue that *CSI* viewing does indeed affect respondents perceptions of forensic science, at least in terms of their sense of its accuracy. If I ended my analysis with Model 2, my arguments would be similar, however I could additionally claim that the effect of *CSI* viewing holds even after demographic effects had been controlled for. However, if my analysis ended with Models 3 or 4, subsequent to the inclusion of controls for the additional effects of life experiences relating to forensics and other forensic science-related media, my results would leave me concluding that *CSI* viewership has no statistically significant effect upon respondents perceptions of the accuracy of forensic science, or, that *CSI* viewing was not as strong a predictor of respondents' perceptions as were these other variables.

While these results are interesting, it is the reemerging statistical significance of *CSI* viewing in Model 5 as well as the statistical significance of the majority of the *CSI* specific variables that yield the most illuminating results. The relationship between these variables is discussed further below.

CSI Specific Variables

Of the four *CSI*-specific variables introduced in the final model, three were statistically significant. The results reveal that respondents perceptions' of the accuracy

of *CSI*'s depictions of forensic science and technology is a strong predictor of their perceptions of the accuracy of (real-life) forensic science (beta=.199, $p < .05$).

The results of Model 5 further indicate that learning from *CSI* and the amount of forensic science knowledge respondents feel they have acquired from the programs are significant predictors of their perceptions of the accuracy of forensic science. These results reveal that respondents who have learned about forensic science from *CSI* perceive forensic science to be more accurate than those who have not learned about forensic science from the programs (beta=.211, $p< .01$). Moreover, the results indicate that the more forensic science knowledge respondents feel they have acquired from the *CSI* programs, the more accurate they perceive forensic science to be (beta=.025, $p < .05$).

However it is the statistically significant main effect of *CSI* viewing in Model 5 and its relationship with the latter two variables noted above that yield the most interesting results. The partial regression coefficient for the main effect of *CSI* viewing (beta= –.279, $p <.01$) suggests a negative relationship between *CSI* viewing and respondents' perceptions of the accuracy of forensic science. *Prima facie,* this result appears counterintuitive, particularly in light of the positive association between respondents' perceptions and the other *CSI*-specific variables. What this negative value in fact reveals is both the disparity and indeed the similarity between *CSI*-viewer and non-viewer perceptions. The means by which I arrive at these conclusions are discussed below.

Mapping the Relationship Between CSI Viewers' and Non-Viewers Perceptions

In order to examine the relationship between *CSI* viewers' and non-viewers perceptions of the accuracy of forensic science, I employed an interpretive tool used to facilitate demonstration and discussion of these seemingly counterintuitive findings. This interpretive tool involved the creation of six hypothetical respondents which were constructed as *CSI* viewers and non-viewers who had learned varying amounts of their forensic knowledge from the *CSI* programs. The predicted perceptions of these hypothetical respondents were then calculated and graphically represented.

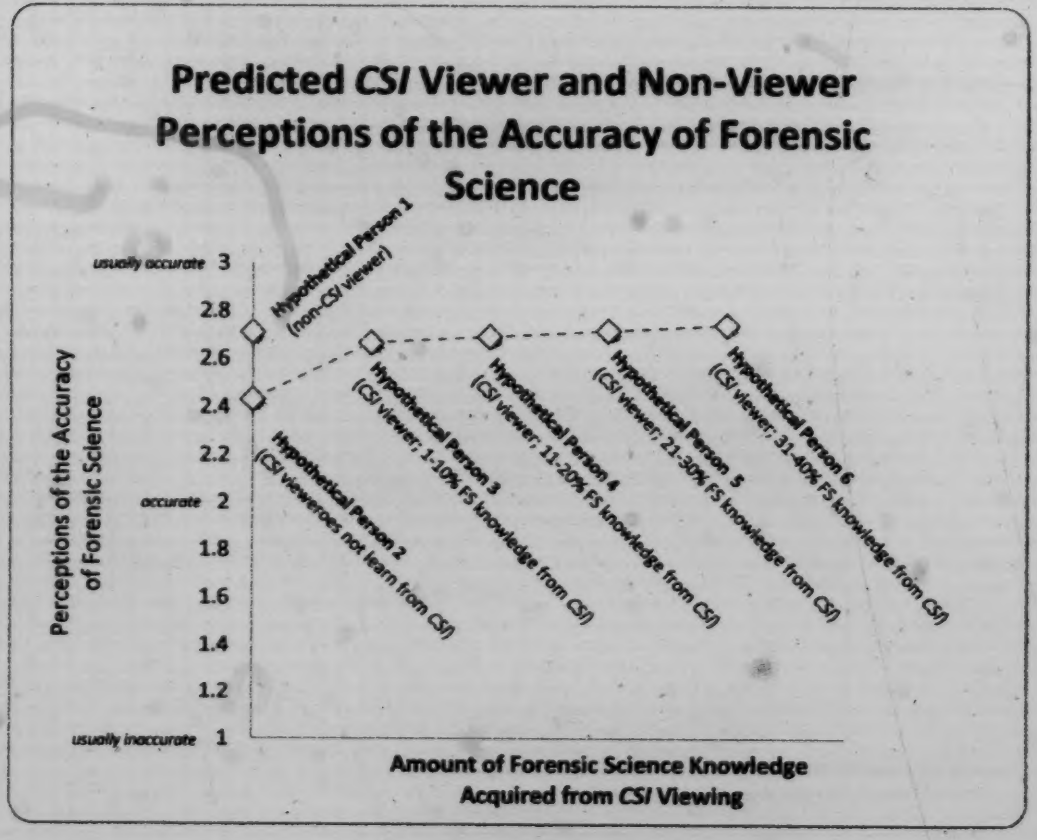
More specifically, calculation of these respondents' predicted perceptions (Y scores) were arrived at by assigning them constant values for all but three predictors pertaining to *CSI*. These three predictors were those representing *CSI* viewership, having learned about forensics from *CSI,* and the amount of forensic science knowledge acquired from *CSI*. Hypothetical respondents were assigned constant values only for the predictors which were significant in the final model, all other variables were excluded from my calculations. Using the averages reflected in the descriptive statistics, all hypothetical persons were assigned an age of 44.51 years with 15.06 years of schooling. For the sake of simplicity, all hypothetical respondents were gendered male, and assigned values of zero for both the experience with crime and accuracy of *CSI*'s depictions variables. The hypothetical persons were then assigned values corresponding to *CSI* viewership, having learned from *CSI,* and the amount of forensic science knowledge acquired from the *CSI* programs (see Table 4 for a synopsis of the variable assignments and the resulting predicted Y scores). These assigned values were then multiplied by the variables' corresponding partial regression coefficients generated in the final model, and

totaled, yielding the predicted perceptions (Y scores). These results are graphically represented in Figure 6. (For a detailed presentation of these calculations, please see the appendix).

Table 4: Constructing the Hypothetical Accuracy Regression Respondents

Hypothetical Respondents	Person 1	Person 2	Person 3	Person 4	Person 5	Person 6
CSI Viewer	No	Yes	Yes	Yes	Yes	Yes
Learned from *CSI*	No	No	Yes	Yes	Yes	Yes
% of FS Knowledge from *CSI*	0%	0%	1-10%	11-20%	21-30%	31-40%
Predicted Y Score	2.709	2.430	2.666	2.691	2.716	2.741

Figure 6: Predicted CSI Viewer and Non-Viewer Perceptions of the Accuracy of Forensic Science


Predicted CSI Viewer and Non-Viewer Perceptions of the Accuracy of Forensic Science
usually accurate 3
2.8
2.6
2.4
2.2
accurate 2
1.8
1.6
1.4
1.2
usually inaccurate 1
Perceptions of the Accuracy of Forensic Science
Hypothetical Person 1 (non-CSI viewer)
Hypothetical Person 2 (CSI viewer;does not learn from CSI)
Hypothetical Person 3 (CSI viewer; 1-10% FS knowledge from CSI)
Hypothetical Person 4 (CSI viewer; 11-20% FS knowledge from CSI)
Hypothetical Person 5 (CSI viewer; 21-30% FS knowledge from CSI)
Hypothetical Person 6 (CSI viewer; 31-40% FS knowledge from CSI)
Amount of Forensic Science Knowledge Acquired from CSI Viewing

As can be seen, the predicted perceptions of the hypothetical respondents demonstrate that when all other predictors are held constant, non-*CSI* viewers perceive forensic science to be *more* accurate than do *CSI* viewers (who both claim to have learned nothing about forensic science from viewing the programs, and those who claim to have acquired somewhere between 1 and 20 percent of their forensic science knowledge from *CSI* viewing). *CSI* viewer and non-viewer perceptions only appear similar when *CSI* viewers' subjective assessments of the amount of forensic science knowledge they have acquired from viewing approaches 21 to 30 percent.

It should be noted, however, that this disparity between viewer and non-viewer perceptions is likely imperceptible in the "real world." This is because respondents' answers to the question "How accurate do you think forensic science is?" were captured on a likert scale, a cognitive ranking that fails to represent respondents' perceptions of the degree of magnitude or difference between, for example, "accurate" and "usually accurate." As such, the predicted likert-scale responses of *CSI* viewers and non-viewers *both* fall between the ranges of "accurate" and "usually accurate." Therefore although these statistical calculations articulate these differences in an exact numeric form, how these differences would actually translate into the "real world" remains open to question.

These outcomes are nevertheless enlightening in view of existing research. For example, the results of Podlas and Shelton et al.'s studies led them to conclude that, generally speaking, differences between *CSI* viewer and non-viewer expectations of forensic science were not evident. Moreover, Shelton et al.'s study further revealed elevated expectations of forensic science across their entire sample, leading them to posit that a "tech effect" was responsible for this commonality between the expectations of

viewers and non-viewers. The hierarchical results of my analysis therefore support their findings in two ways.

First, the results of Model 4 suggest that respondents' perceptions of (in this case, the accuracy of) forensic science are predicted by virtue of their age, gender, education, and learning about forensic science from experiencing crime and from the entertainment media. According to the results of this model, whether respondents were *CSI* viewers or not had no bearing upon their perceptions of the accuracy of forensic science. As such, the results of Model 4 suggest that the "tech effect" posited by Shelton et al. may indeed relate to respondents having learned about forensic science from a larger body of media than *CSI,* one which also includes movies and other fictional television crime dramas. Moreover however, the outcomes of Model 4 further indicate that this larger "effect" may also be a function of respondents' social location and particular life experiences.

In light of the results of Model 5, however, my analysis suggests that *CSI* viewership is an inadequate measure of *CSI*'s effects. The results of this model do lend support to Shelton et al.'s claims that viewers and non-viewers appear to share similar perceptions of forensic science. However the inclusion of subjective measures of *CSI*'s effects allows me to speak more specifically to the conditions under which viewer and non-viewer perceptions are similar, and to when, in theory, they might differ. The results of this regression analysis therefore add texture to the CSI effect by adding further context to CSI effect research.

CHAPTER SUMMARY

The results of my analysis confirm the significance of *CSI* viewing as a predictor of respondents' perceptions of the accuracy of forensic science. Yet my findings

demonstrate that the statistical significance of *CSI* viewing alone is not what confirms or refutes the existence of a CSI effect. This discussion of respondents' perceptions of the *accuracy* of forensic science pertains only to one of the implications inherent to CSI effect claims (the other relates to perceptions concerning the *necessity* of forensic science in determining guilt). And although this discussion therefore only represents half of my analysis of *CSI*'s effects, the results already reflect some of the broader considerations that should be accounted for when examining the CSI effect, in addition to locating the conditions under which a CSI effect might theoretically occur.

The regression results reveal several considerations unrelated to *CSI* viewing which are significant to predicting respondents' perceptions of the accuracy of forensic science. For example, the enduring statistical significance of the age, gender, education, and experience with crime variables suggest that they are important predictors of respondents' perceptions of the accuracy of forensic science, independent of the other effects incorporated into the analysis. The effect of entertainment media, for example, appears less stable. The results indicate that when the *CSI*-specific controls are added to the regression equation, the effect of entertainment media upon respondents' perceptions dissolves ($beta_{model\ 5}$=.110, p=.189), perhaps by either being cancelled out or subsumed by *CSI*'s effects. Therefore, the statistical significance of the demographic and experience with crime predictors offer an important contribution to the existing body of CSI effect research by contributing a context to *CSI* viewers and to *CSI*'s effects which is currently lacking.

However perhaps most importantly, my results locate the conditions under which a particular CSI effect might *theoretically* occur. The results of my final model lend

support to the conclusions drawn by Podlas and Shelton et al., that *CSI* viewer and non-viewer perceptions of forensic science are indeed similar, yet these results also articulate the CSI effect in theory, by demonstrating the disparity between viewers and non-viewers' perceptions that exists before a particular threshold of *CSI*s "effects" is reached. This threshold, of course, refers to respondents' subjective assessments of the amount of knowledge they have acquired by virtue of *CSI* viewing. Subsequent to reaching this "*CSI* informed knowledge threshold" (where approximately 20 to 30% of a *CSI* viewer's knowledge about forensics is informed by *CSI*) in evidence is what amounts to the opposite of a CSI effect, that when all other considerations are held constant, non-*CSI* viewers tend to perceive forensic science as *more* accurate than do *CSI* viewers. Yet as noted earlier, this statistical evidence disputing the CSI effect may be imperceptible in a real-world context.

What the totality of these findings suggest is that several factors outside of *CSI* viewing, and indeed exclusive to my analysis, inform respondents' perceptions of the accuracy of forensic science. These unaccounted for or extraneous factors are reflected in the minimal amount of variability in respondents' perceptions of the accuracy of forensic science accounted for by the total regression analysis – a mere 6.6 percent. Yet the objective of my analysis was not to explain all possible influences upon respondents' perceptions of the accuracy of forensic science, but to test for *CSI*'s effects amidst the inclusion of other relevant theoretical considerations. Accordingly, my results indicate that the inclusion of the *CSI*-specific variables did contribute more explanatory power than did any of the other variable clusters incorporated in the regression (R^2 change $_{model\ 5}$=.023).

However, the analysis of respondents' perceptions of the accuracy of forensic science only represents half of my examination into *CSI*'s effects. The second half of this study concerns respondents' perceptions of the *necessity* of forensic science in concluding criminal guilt. The results of this analysis are described in the following chapter.

CHAPTER FIVE – Results: Perceptions of the Necessity of Forensic Science

In this chapter, I discuss the results of the second part of my analysis: My examination of *CSI*'s effects upon public perceptions of the necessity of forensic science in concluding criminal guilt. As the descriptive statistics yielded by this analysis are virtually identical to those yielded by the accuracy regression (refer to Tables 2 and 5 for comparative purposes), only the statistics for the variables which differ between the analyses are discussed below.

DESCRIPTIVE STATISTICS

An overview of the descriptive statistics are reflected in Table 5. A total of 836 respondents provided answers to all of the survey questions and therefore remained in this analysis.

Dependent Variable

Perceptions of the Necessity of Forensic Science

The dependent variable in this analysis consists of an aggregation of respondents' perceptions of the necessity of forensic science in concluding guilt of *violent crimes*, and its necessity in concluding guilt of *non-violent crimes*. As such, response frequencies for both of the variables comprising the aggregate are outlined below.

Perceptions of the Necessity of Forensic Science in Violent Crime

The vast majority of respondents included in this analysis indicated that they felt forensic science is "completely necessary" to concluding guilt in violent crimes (66.3%). Most of the remaining respondents (23.4%) indicated that they felt forensic science is "usually necessary" to concluding guilt in violent crime. Only 7.3 percent of respondents

Table 5: Necessity Regression Descriptive Statistics

NECESSITY REGRESSION: DESCRIPTIVE STATISTICS

				N=836
DEPENDENT VARIABLE				
Necessity of Forensic Science Aggregate	(continuous = completely unnecessary to completely necess	3.15	0.827	
PREDICTOR VARIABLES				
MAIN EFFECT		**Mean**	**SD**	**%**
CSI Viewing (composite variable*)	1 = watches *CSI*	3.15	0.827	57.4
	does not watch *CSI*			42.6
	watches 1-2 shows per week			35.7
	watches 3-4 shows per week			12.9
	watches 5-6 shows per week			3.9
	watches 7-8 shows per week			1.6
	watches 9+ shows per week			3.3
CONTROL VARIABLES				
Demographic Variables				
Age	(continuous = 18 to 90)	44.46	15.095	
Gender	1 = male	0.53	0.499	53.4
Years of Schooling	(continuous = 0 to 25+)	15.07	3.066	
Household Income	(continuous = under $6,000 to intervals)	Mean: $65,000 to $74,999		
Life Experience Variables				
Education/Work (composite variable*)	1 = learned about FS from course, work, &/or other in field	0.43	0.495	43.1
	learned about FS from course			17.6
	learned about FS from work			15.4
	learned about FS from someone in field			34.3
Experienced Crime	1 = learned about FS from experiencing crime	0.24	0.425	23.6
Sat on Jury	1 = learned about FS from being juror	0.05	0.226	5.4
Other Media Variables				
News	1 = learned about FS from the news	0.86	0.350	85.7
Books	1 = learned about FS from books	0.63	0.483	63.1
Internet	1 = learned about FS from the internet	0.29	0.455	29.2
Documentaries	1 = learned about FS from documentaries	0.84	0.363	84.4
Entertainment Media (composite variable*)	1 = learned about FS from other fictional TV &/or movies	0.88	0.320	88.4
	learned about FS from other TV			70.1
	learned about FS from movies			79.0
FOCAL VARIABLES				
***CSI* Specific Variables**				
Learned from *CSI*	1 = learned about FS from *CSI*	0.83	0.376	83.0
Amount of FS Knowledge from *CSI*	(continuous = 0, 1-10% to 91-100%)	2.81	3.264	
Depiction of FS & Technology	1 = *CSI*s' depiction of FS & technology is accurate	0.47	0.499	46.7
Depiction of CSIs' Expertise	1 = *CSI*s' depiction of CSIs' expertise is accurate	0.45	0.497	44.6
Accuracy of Forensic Science	(continuous = always inaccurate to always accurate)	3.09	0.694	

FS = "forensic science"

*composite variables are composed of the the variables without labels listed below it.

felt forensic science is "necessary" in concluding guilt, whereas 1.9 percent (16 respondents) and 1.1 percent (9 respondents) indicated that they felt forensic science was "somewhat necessary" and "completely unnecessary" to concluding guilt in violent crimes, respectively.

Perceptions of the Necessity of Forensic Science in Non-Violent Crime

Thirty-five percent of the respondents indicated that they felt forensic science is "completely necessary" to conclude guilt in non-violent crimes. The percentages of respondents who felt forensic science was "usually necessary" or "necessary" to conclude guilt in non-violent crimes were very similar, and represented 25 percent and 25.5 percent of respondents, respectively. 11.2 percent of respondents felt that forensic science is "somewhat necessary" to conclude guilt in non-violent crimes, while 3.3 percent felt that it is "completely unnecessary."

Focal Variable

Perceptions of the Accuracy of Forensic Science

The majority of respondents included in the analysis felt that forensic science is "usually accurate" (59.8%), with the second most common perception being that forensic science is "always accurate" (26%). Twelve percent of respondents felt that forensic science is "accurate," while 1.3 percent (11 respondents) felt that forensic science is "usually inaccurate," and 0.6 percent (5 respondents) indicated that they felt that forensic science is "always inaccurate."

REGRESSION RESULTS: Perceptions of the Necessity of Forensic Science

The regression results are reflected in Table 6. As was the case in the accuracy regression, in the discussion below I speak to both the statistical significance of particular variables, as well as each to each variable cluster's contribution to the explanatory power of the overall regression.

Table 6: Necessity Regression Results

REGRESSION RESULTS: PERCEPTIONS OF THE NECESSITY OF FORENSIC SCIENCE

VARIABLE N = 836 (standard errors)	Model 1 beta	Model 2 beta	Model 3 beta	Model 4 beta	Model 5 beta	Model 6 beta
MAIN EFFECT						
CSI Viewing	0.217 *** (.057)	0.192 *** (.057)	0.180 ** (.057)	0.087 (.059)	-0.231 * (.113)	-0.188 (.112)
DEMOGRAPHIC VARIABLES						
Age		0.012 (.010)	0.010 (.010)	0.012 (.010)	0.009 (.010)	0.006 (.010)
Age^2		0.000 (.000)	0.000 (.000)	0.000 (.000)	0.000 (.000)	0.000 (.000)
Gender		-0.155 ** (.057)	-0.167 ** (.057)	-0.174 ** (.057)	-0.166 ** (.057)	-0.145 ** (.056)
Years of Schooling		-0.048 *** (.009)	-0.050 *** (.009)	-0.051 *** (.009)	-0.048 *** (.009)	-0.046 *** (.009)
Household Income		0.005 (.004)	0.007 (.004)	0.006 (.004)	0.005 (.004)	0.005 (.004)
LIFE EXPERIENCE VARIABLES						
Education/Work			0.036 (.059)	0.026 (.059)	0.069 (.060)	0.058 (.059)
Experienced Crime			0.252 *** (.068)	0.244 *** (.068)	0.238 *** (.067)	0.220 *** (.067)
Sat on Jury			0.000 (.124)	0.011 (.123)	0.024 (.123)	0.021 (.122)
OTHER MEDIA VARIABLES						
News				-0.076 (.083)	-0.061 (.083)	-0.051 (.082)
Books				-0.033 (.061)	-0.015 (.061)	-0.012 (.061)
Internet				0.055 (.066)	0.062 (.066)	0.048 (.065)
Documentaries				0.229 ** (.080)	0.203 * (.081)	0.204 * (.080)
Entertainment Media				0.330 *** (.093)	0.245 * (.098)	0.230 * (.098)
CSI SPECIFIC VARIABLES						
Learned from *CSI*					0.254 ** (.094)	0.222 * (.094)
FS Knowledge from *CSI*					0.025 (.014)	0.021 (.014)
Depiction of FS & Technology					-0.020 (.111)	-0.050 (.110)
Depiction of CSIs' Expertise					0.173 (.104)	0.176 (.103)
Accuracy of Forensic Science						0.153 *** (.040)
CONSTANT	3.021 (.043)	3.501 (.245)	3.440 (.244)	3.066 (.257)	2.984 (.257)	2.565 (.277)
R^2	0.017	0.057	0.075	0.104	0.122	0.137
Adjusted R^2	0.016	0.050	0.065	0.089	0.102	0.117
R^2 change	0.017	0.040	0.018	0.029	0.018	0.016
Sig. F change	0.000	0.000	0.001	0.000	0.003	0.000

* $p \leq .05$ ** $p \leq .01$ *** $p \leq .001$

Main Effect

CSI Viewing

The results of Model 1 indicate that in the absence of controls pertaining to other constructs informing respondents' perceptions of forensic science, *CSI* viewing is a statistically significant predictor of their perceptions of the necessity of forensic science in concluding criminal guilt (beta=.217, $p < .001$).

Control Variables

Demographic Variables

The introduction of demographic controls in Model 2 indicate that both gender (beta= –.155, $p < .01$) and years of schooling (beta= –.048, $p < .001$) serve as statistically significant predictors of respondents' perceptions of the necessity of forensic science in determining criminal guilt. Both partial regression coefficients were negative, indicating that female respondents tended to view forensic science as more necessary to conclude guilt than did male respondents, and that more educated respondents were less likely than less educated respondents to perceive forensic science as necessary in concluding criminal guilt. The introduction of these variables into the regression analysis offered a statistically significant contribution to its explanatory power (R^2=.057, R^2 change=.040).

The enduring statistical significance of the gender and education variables throughout the models suggests their independence from other effects subsequently introduced into the regression.

Life Experience Variables

The 'life experiences' variable cluster also improved the explained variance in respondents' perceptions of the necessity of forensic science in concluding criminal guilt

(R^2 =.075, R^2 change=.018). However, of the three variables included in this cluster, only one emerged as statistically significant: learning about forensic science from having experienced or known someone who has experienced a crime (beta=.252, $p < .000$). Respondents who have learned about forensic science by virtue of direct or indirect experience with crime tended to view forensic science as more necessary to conclude guilt than did those who have not.

Again, this variable remains statistically significant (at the $p < 0.001$ level) across all of the models included in the analysis regardless of the introduction of further controls. The enduring significance of this predictor suggests that its influence upon respondents perceptions of the necessity of forensic science is independent of the other effects included in the analysis.

Other Media Variables

The introduction of the 'other media' variables in Model 4 also contributed to the explanatory power of the regression analysis (R^2 = .104, R^2 change=.029), and yielded two further statistically significant predictors of respondents' perceptions of the necessity of forensic science. Respondents who had learned about forensic science from both entertainment media (beta=.330, $p < .001$) and documentaries (beta=.229, $p < .01$) tended to view forensic science as more necessary to concluding guilt than did respondents who indicated that they had not learned about forensics from these media.

Similar to the interpretation noted in the accuracy regression, these positive associations may be viewed in light of typical depictions of forensic science on television. The increasing presence of forensic science on television is evidenced in both its incorporation into existing series' (e.g., *Law & Order*) and in the growth of forensic-focused programs such as the fictional crime dramas *Bones* and *Crossing Jordan*, and in

documentary style programming such as *Forensic Files*.[21] These fictional dramas and fact-oriented documentary programs both tend to represent forensic science as necessary to conclusions of guilt, particularly in the forensic-focused programs. Naturally these programs will not typically focus upon cases in which the use of forensics is *un*necessary in determining criminal culpability because their very nature centers upon revealing how forensic scientific applications are used to facilitate the detection and apprehension of guilty parties.

With respect to the regression analysis overall, we can see that the effect of documentaries and entertainment media remain statistically significant throughout all of the models, reflecting their independence of other effects subsequently introduced into the regression.

Focal Variables

Revisiting the "Main Effect" of CSI Viewing Throughout the Models

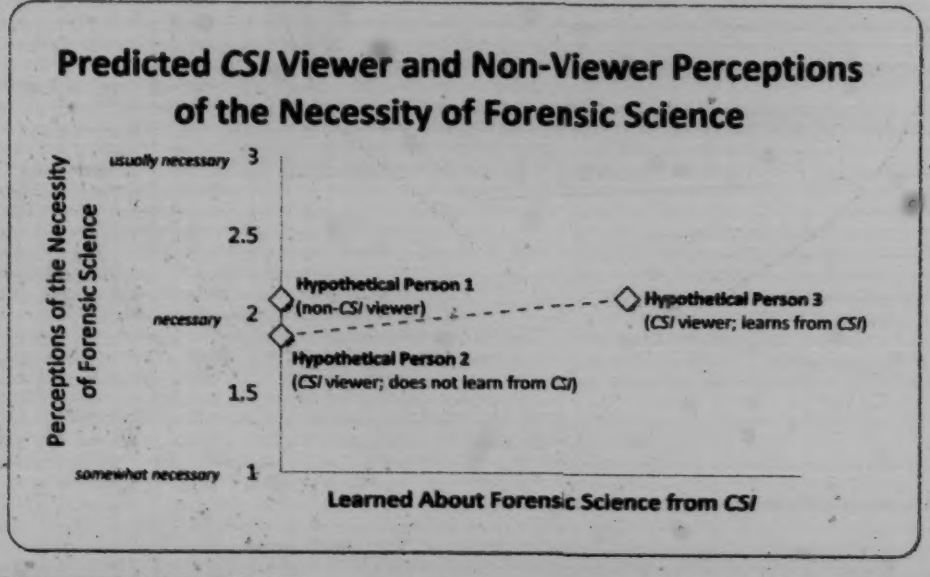
As earlier noted, the results of Model 1 indicate that *CSI* viewing is indeed a statistically significant predictor of respondents' perceptions of the necessity of forensic science in concluding criminal guilt. The results of Models 2 and 3 indicate that *CSI* viewing remains a significant predictor of respondents' perceptions, independent of demographic and forensic-related life experience effects (beta=.192, $p < .001$ and beta=.180, $p < .01$, respectively). These results indicate that *CSI* viewers tend to perceive forensic science as more necessary in concluding criminal guilt than do non-viewers.

When considering the statistical significance of learning about forensic science from *CSI* in Model 5, it is not surprising that the main effect of *CSI* viewing is also statistically significant in this model (beta= –0.231, $p < .05$). The contingent relationship

[21] *Bones* first aired in 2005, and both *Crossing Jordan* and *Forensic Files* debuted in 2001.

between *CSI* viewing and learning about forensic science from *CSI* is again reflected in the negative value of this main effect variable. A graphic representation of the perceptions of *CSI* viewers and non-viewers illustrates the direction of this association when the statistical significance of learning about forensic science from *CSI* is accounted for in predicted perceptions (Y score) calculations.[22] Of interest with respect to these calculations are the predicted perceptions of *CSI* viewers who indicated that they have *not* learned about forensic science from watching the programs. The predicted perceptions of these respondents reflects a sort of "perceptive hierarchy" such that non-viewers perceive forensic science to be *more* necessary than *CSI* viewers who have *not* learned about forensic science from the programs, but *less* necessary than *CSI* viewers who feel that they *have* learned about forensic science from the programs (see Figure 7).

Figure 7: Predicted CSI Viewer and Non-Viewer Perceptions of the Necessity of Forensic Science


Predicted CSI Viewer and Non-Viewer Perceptions of the Necessity of Forensic Science
Perceptions of the Necessity of Forensic Science
usually necessary
3
2.5
necessary
2
1.5
somewhat necessary
1
Hypothetical Person 1 (non-CSI viewer)
Hypothetical Person 2 (CSI viewer; does not learn from CSI)
Hypothetical Person 3 (CSI viewer; learns from CSI)
Learned About Forensic Science from CSI

[22] As I did in the accuracy regression, I calculated the predicted Y scores by holding all other values constant and assigning viewers and non-viewers values corresponding to whether or not they had learned about forensic science from *CSI*. These values were then multiplied by the partial regression coefficients in model 5, totaled, and the resulting values plotted on the graph above. For the details of these calculations, please see the Appendix.

The results of Models 4 and 6 however, indicate that *CSI* viewing has no bearing upon respondents perceptions of the necessity of forensic science in concluding guilt when the effects of other media and perceptions of forensic science's accuracy are controlled for, respectively.

CSI Specific Variables

The introduction of the *CSI* specific variables in Model 5 also significantly improved the explanatory power of the regression analysis (R^2=.122, R^2 change=.018), however only one of these four additional variables emerged as statistically significant: having learned about forensic science from *CSI* (beta=.254, $p < .01$). As such, respondents who indicated that they had learned about forensic science from the *CSI* programs tended to view forensic science as more necessary than those who had not. This is an unsurprising result, particularly when considering the discussion of *CSI*'s depictions of the necessity of forensic science noted in Chapter One.

Perceptions of the Accuracy of Forensic Science

The results of Model 6 indicate that there is a positive correspondence between respondents' perceptions of the accuracy of forensic science and their perceptions of its necessity in determining criminal guilt: the more accurate respondents feel that forensic science is, the more necessary they consider it to be in determining guilt (beta=.153, $p < .001$). This effect is independent of the effects of social location, forensic-related life experiences, and of forensic-related media.

Although the relationship between respondents' perceptions of the accuracy of forensic science and their perceptions of its necessity is statistically significant, the inclusion of this variable into the regression analysis offers only a minor improvement to its explanatory power (R^2=.137, R^2 change=.016).

Summary of the Focal Variable Findings

Interpreting the results of these focal variables as a totality reveal several interesting outcomes. In terms of respondents' perceptions of the *necessity* of forensic science in concluding criminal guilt, *CSI*'s effects upon respondents' perceptions are qualitative in nature, and are not quantifiable as they were in the accuracy analysis. The results of Model 5 indicate that having learned about forensic science from *CSI* is a statistically significant predictor of respondents' perceptions of its necessity in concluding criminal guilt, however, the amount of knowledge they have acquired from the programs is not. These results indicate that learning from *CSI does* impact respondent's perceptions of the necessity of forensic science, but that their perceptions are independent of the amount of forensic science knowledge that they have acquired from the programs. Furthermore, the results of Model 5 suggest that *CSI* does affect respondents' perceptions in the manner asserted by CSI effect claimants, with one notable caveat. As Figure 7 demonstrates, *CSI* viewers who have learned about forensic science from the programs do indeed perceive forensic science to be more necessary in concluding criminal guilt than do non-viewers. However, *CSI* viewers who indicated that they did *not* learn about forensic science from the program perceived forensic science to be *less* necessary than did non-viewers. Despite the fact that *CSI* viewing respondents who indicated that they did not learn about forensic science represented less than one percent of the sample (2 of the 836 respondents) the caveat, therefore, is that *CSI* viewing does not *necessarily* translate to, or entail, *CSI*-related learning. As was noted in terms of the accuracy regression, however, when regarding just how slight these differences in

perceptions are, the differences between *CSI* viewer and non-viewer perceptions may be imperceptible in the real world.

Another interesting outcome pertains to the results of Models 5 and 6 which indicate that *CSI*'s effects upon respondents' perceptions (in terms of learning about forensic science from the programs) are independent of the effects of other media. This suggests that *CSI* has a nuanced, differential effect upon respondents' perceptions of the necessity of forensic science which is independent of the statistically significant effects of other entertainment media and documentaries. Despite their earlier noted common representation of forensic science as necessary to determinations of guilt, their statistical independence of one another suggests that although they culminate in a similar effect, these media each contribute something different to respondents' perceptions of the necessity of forensic science. In light of the "tech effect" posited by Shelton et al., these findings suggest that perhaps media both fictional and factual, depicted on both big and little screens, contribute to public expectations of forensic science and technology, at least in this respect, in terms of its necessity in determining criminal guilt. Where these results differ from Shelton et al.'s findings however, is of course with regard to *CSI*'s involvement within this broader cultural effect (recall that in general, their results indicated that *CSI* had no statistically significant bearing on respondents' expectations of forensic science).

Finally, in terms of addressing the implications of CSI effect claims, the statistical significance of the accuracy predictor in Model 6 confirms a positive correspondence between respondents' perceptions of the accuracy of forensic science and their perceptions of its necessity in concluding criminal guilt. However, the introduction of this

variable into the analysis offered the smallest contribution to the regression's explanatory power of all of the predictors entered. This suggests that the correspondence between respondents' perceptions of the accuracy and necessity of forensic science is not nearly as great as CSI effect claimants have suggested it is. I do acknowledge that the increase in explanatory power offered by the accuracy predictor may be more trivial than that offered by the others given the singularity of the variable entered (versus the clusters of variables entered in preceding models). However, I would nevertheless argue that because this correspondence is one of the most central implications inherent to CSI effect claims, relatively speaking, if the increase in explained variance reflected its weight in CSI effect claims, the improvement in explanatory power should have been much more substantial.

CHAPTER SUMMARY

This analysis tested not only *CSI*'s effects, but the effects of a further control upon them. As such, the results of this analysis again revealed the conditions under which a CSI effect may theoretically occur, despite the likely imperceptible nature of this effect in the real world.

The results of the necessity regression indicate that *CSI* does affect respondents' perceptions of the necessity of forensic science in the manner declared by CSI effect claimants. *CSI* viewers who have learned about forensics from the programs do believe forensic science to be more necessary to conclude guilt than do non-viewers. These results further suggest that the effects of other media are similar: those who have learned about forensic science from other fictional crime dramas, documentaries, and movies tend to believe forensic science to be more necessary to determining criminal guilt than do those who have not learned from these media.

However, the results of Model 6 indicate that *CSI* viewership is not a condition of *CSI*'s effects. Although the main effect of *CSI* viewing was not statistically significant, learning about forensic science from *CSI* was. This suggests that respondents who learn about forensics from *CSI,* regardless of their regular viewership, will nevertheless perceive forensic science to be more necessary than those who do not learn from the programs.

Finally, as was the case with the accuracy regression, this analysis revealed various variables unrelated to *CSI* to be statistically significant predictors of respondents' perceptions. The significance of gender, years of schooling, experience with crime, documentaries, and entertainment media predictors therefore reiterate the need for consideration of additional constructs informing respondents' perceptions of forensic science when examining the CSI effect.

In conclusion, the results of this analysis also demonstrate that *CSI* viewership is an inadequate predictor of *CSI*'s effects. Although statistically significant as a lone predictor of respondents perceptions of both the accuracy and necessity of forensic science, its significance lacks theoretical and methodological context. Furthermore, as the hierarchically structured results reveal, *CSI* viewership's statistical significance is contingent upon controls for other theoretically-relevant effects. The way in which respondents' perceive of forensic science is informed by many more factors than *CSI* viewing, including what is subjectively assessed as "learned" or "knowledge acquired" from watching the programs. Therefore, although the CSI effect is represented by CSI effect claimants as a relatively basic but malignant product of uncritical viewing, the

results of my analysis demonstrate that *CSI*'s effects are conditional upon many considerations, only a few of which have I been able to account for and examine here.

CONCLUSION

Concerns about the media's influence upon public perceptions are not new, media effects were being lamented years before television sets could even be found in most Western world homes (see, for example, Horkheimer & Adorno, 2001). Assertions of media effects flowing from television crime dramas are also not a recent phenomenon; in addition to the CSI effect, programs such as the *Perry Mason* and *Quincy, M.E.* television series' have also been the alleged source of media effects. For example, during the run of the *Perry Mason* series from 1957 to 1966, it was argued that juries expected lawyers to approach the stand while questioning witnesses like Mason did, despite the fact that such close proximity between counsel and witnesses was unconventional at the time (Goehner, Lofaro, & Novack, 2004; Heinrick, 2006). Similarly, during the 1976 to 1983 airing of the *Quincy* series, it was argued that juries expected forensic pathology to be answer to resolving all criminal cases, akin to what was routinely demonstrated by the fictional medical examiner, Dr. Quincy (Dutelle, 2006; Goehner, Lofaro, & Novack, 2004; Goode, 2004; Turow, 2004). Accordingly, today's claims of a CSI effect may simply represent another rendering of an old story, much like *CSI* represents a new "spin" on the traditional cop show formula.

Why do these often empirically unsubstantiated media effects capture such attention? Perhaps it is their intuitive appeal. People learn from what they observe, and much of what they observe about criminal justice occurs on television (Gildea, n.d.). Research indicates that much of the public's knowledge about crime and justice is derived from the mass media, and from entertainment media in particular (Surette, 1998:25). Furthermore, many more people have watched *CSI* than have witnessed actual

forensic scientific applications (Tandy, 2006). And although the *CSI* programs are likely viewed by most for entertainment (versus educating) purposes, research suggests that television nevertheless serves as a "key source of social information" with "considerable social, behavioral, and psychological effects, far beyond pure leisure and entertainment" (McNeely, 1995:3). *CSI*'s popularity and thus its popularization of forensic science therefore seem to render it an obvious source of awareness concerning what was once an area of criminal detection unfamiliar to most.

Indeed, as noted, *CSI*'s representations of the unquestionable accuracy of forensic science and thus its necessity in determining criminal guilt have led some lawyers, faced with unanticipated verdicts, to posit that these verdicts were generated by jurors whose *CSI* viewing skewed their perceptions of the uses of forensic science. To examine the veracity of these claims, researchers have searched for evidence of the CSI effect using differing methods and research subjects. While published studies have generally concluded that the CSI effect appears to be a matter of fiction, these conclusions are acontextual in the sense that researchers have neglected consideration of factors in addition to *CSI* viewing that may have affected respondents' perceptions of forensic science – factors which could also speak to why no significant evidence of a CSI effect was found.

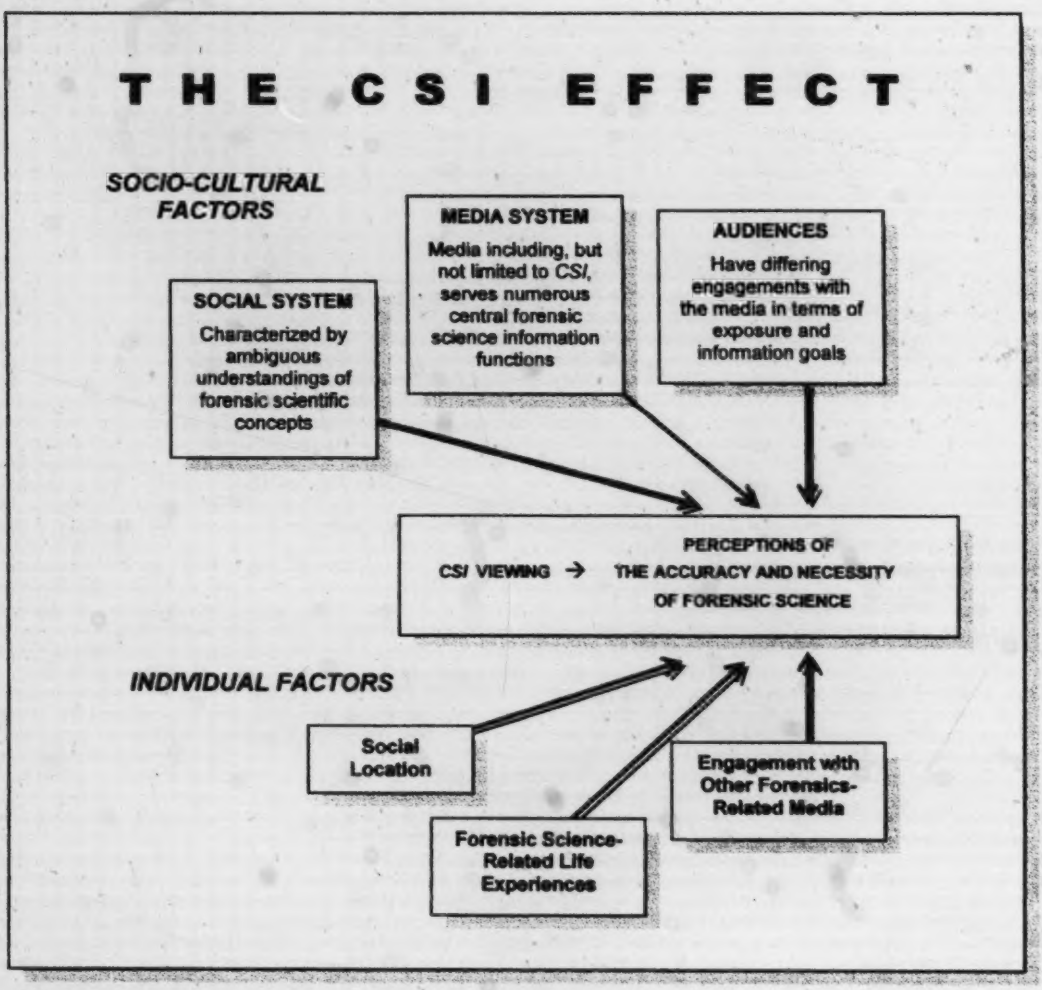
The research presented in this paper responded to both the explicit and implicit assertions of CSI effect claimants, and to the limitations noted in existing CSI effect studies. Responding to these assertions and limitations has led to a more contextualized theoretical and methodological examination of *CSI*'s effects. The literature review offered a comprehensive synopsis of *CSI*'s representation of the accuracy and necessity

of forensic science in determining criminal guilt, and of the alleged effects such representations have had on juror perceptions of forensics. Media dependency theory provided a theoretical framework that allowed for an examination of the CSI effect from a more broad-based conceptual and methodological standpoint than had been previously undertaken, and the outcomes of this analysis confirmed the importance of these more contextual considerations.

Incorporating media dependency theory's contemplation of the interactive relationship between the social system, the media system, audiences, and audience members' preexisting social constructions of forensic science provided a conceptual and methodological framework within which public perceptions of forensic science, and the factors that inform them, could be more adequately deliberated. The importance of this conceptualization relates to the theory's recognition that media effects, such as the CSI effect, are not simply the product of program-message to viewer transmission , but that media effects (or the absence of them) may indeed be explained by virtue of other larger socio-cultural factors in relation to factors specific to each individual (see Figure 8).

As such, my conceptual analysis of conditions heightening media dependence led me to consider the social world as one in which generally speaking, the public's understanding of forensic scientific concepts may be ambiguous. I also considered how the number and centrality of media sources (including, but not limited to *CSI*) can render them primary communicators of forensic science-related information to those who might not otherwise be exposed to such information. Finally, I considered audiences' dependency relations with forensic science-related media, which may be the result of incidental or selective exposure to such media, and which could pertain to goals relating

Figure 8: A Contextual Analysis of *CSI*'s Effects


THE CSI EFFECT
SOCIO-CULTURAL FACTORS
MEDIA SYSTEM
Media including, but not limited to CSI, serves numerous central forensic science information functions
AUDIENCES
Have differing engagements with the media in terms of exposure and information goals
SOCIAL SYSTEM
Characterized by ambiguous understandings of forensic scientific concepts
CSI VIEWING → PERCEPTIONS OF THE ACCURACY AND NECESSITY OF FORENSIC SCIENCE
INDIVIDUAL FACTORS
Social Location
Engagement with Other Forensics-Related Media
Forensic Science-Related Life Experiences

to understanding, orientation, and/or play. Methodologically, I operationalized controls for other effects upon respondents' perceptions of the accuracy and necessity of forensic science that theoretically preexist *CSI*'s effects.

In terms of conditions heightening media dependence, the results of the study indicate that although in theory, respondents may be situated in a social world of ambiguous understandings of forensic scientific concepts, *CSI* is not the only resource that respondents may be accessing in order to facilitate resolution of these ambiguities.

The statistical significance of learning from documentaries and other entertainment media in the second regression analysis suggest that if respondents do experience a sense of forensic scientific ambiguity, sources in addition to *CSI* may be assisting in the resolution of it.

Similarly, as but one aspect of the media system, while the *CSI* programs are able to create and gather, process and disseminate succinct messages about forensic science, the *CSI* series' are not alone in their provision of information about or their representations of forensics. Again, the necessity regression results suggest that in addition to learning about forensic science from *CSI,* respondents have also learned about forensics from documentaries and other entertainment media. These results suggest that as a forensic science-related media resource, *CSI* is not unique in terms of the number and centrality of the forensics-related information functions it serves.

The outcomes of the study also suggest that information relating to audience members' exposure to and their information goals relating to *CSI* speak more clearly to *CSI*'s effects than does information pertaining only to *CSI* viewing. For example, the results of the second regression analysis indicate that *CSI* viewership is not necessarily indicative of learning from the programs, and learning from *CSI* is not necessarily suggestive of regular viewership. Although very few in number, some regular *CSI* viewers watch the programs and are entertained while learning nothing from them, whereas some irregular viewers learn about forensics from *CSI* while only infrequently viewing the show(s). The results therefore suggest that incidental exposure to *CSI* can result in social understanding, and that selective exposure to *CSI* can occur strictly in

terms of play. Again, these findings reinforce the notion that dependency relations with the media do not necessarily result in media effects.

Conceptual theorization of these broader considerations therefore demonstrate that even if the social world is characterized by ambiguous understandings of forensic science, where media such as *CSI* serve a number of central functions, and where the program may be accessed by many to achieve a variety of information goals – *CSI* is not the only forensic science-related resource accessed by and therefore affecting public perceptions of forensic science. As such, *CSI*'s effects should not be studied in isolation from other potential influences which may be effecting these perceptions. Similarly, regardless of the conditions heightening respondents' dependency upon the media for forensics-related information, intuitively, and as indicated by other media effects research, respondents' perceptions may also be effected by non-media influences. Therefore, in addition to controls for other media sources, I introduced further controls for effects that theoretically preexist those brought about by *CSI* viewing, such as those pertaining to respondents' social location and forensics-related life experiences. These controls were included in order to ascertain whether or not, after controlling for the effects of these other factors in addition to the effects of other forensics-related media, respondents' perceptions of the accuracy and necessity of forensic science could be considered wholly "*CSI* effected."

The results of the study suggest that respondents' perceptions of forensic science could not be considered solely and entirely *CSI* effected, as they indeed appear to be affected by factors in addition to and independent of *CSI* viewing. For example, generally speaking, my results suggest that women, younger persons, and those with fewer years of

schooling tend to perceive forensic science to be more accurate and necessary to concluding guilt than do men, older persons, and those with lengthier educations. The statistical significance of these results speaks to the necessary consideration of these other, non-media(ted) factors affecting respondents' perceptions of forensic science.

The effects of gender are interpretable in light of existing research. For example, research concerning public understandings of science and public perceptions of science and technology consistently finds that men tend to be more knowledgeable about scientific issues than women, and that consequently, women tend to feel less informed than men about issues pertaining to science and technology (Durant, Evans, & Thomas, 1989; Einsiedel, 1994; National Science Board, 2006; Nisbet et al., 2002). The results of my study appear to confirm these findings. With particular reference to discussion concerning *(mis)perceptions of the accuracy of forensic science* in Chapter One, interpretation of the gender results suggest that generally speaking, men may be more sentient to forensic science's potential for inaccuracy, and the conditions under which its use will be warranted or necessary, whereas women may not be as attuned to the nuances of forensic applications, thereby believing it to be more accurate and more necessary to determining guilt than men.

The remainder of the demographic effects appear intuitively interpretable. For example, the non-linear effect of age upon respondents' perceptions of the accuracy of forensic science may be a function of the rapid technological changes our society has recently undergone, in terms of, for example, the explosion of PCs in the home, the evolution of the internet, the widespread use of cellular phones, and so forth. Younger respondents who have grown up in the midst of these advances may be less inclined to

question science and technology, whereas older respondents who may not be as familiar with scientific and technological advances, may be more skeptical of them. As such, forensic science may simply represent another aspect of science and technology that due in part to their respective ages, respondents are either familiar with and confident in, or are more hesitant about and uncertain of.

Similarly, in terms of the effect of education, it may be possible that due to lengthier educations, better educated respondents may be more critical of advances in forensic science and technology. More educated respondents may be less likely to believe in the accuracy and necessity of forensic science than those who may have spent less time in school and may therefore lack a more critical perspective with which to approach such subjects.

My results also indicated that respondents who had experienced or known someone who had experienced a crime perceived forensics as more accurate and necessary to determine guilt than did those who had not. This variable, as well as the gender, age, and years of schooling variables, remained statistically significant predictors even when the *CSI* viewing variable did not, which suggests that social location and experiences with crime may indeed be effecting perceptions of forensic science in a manner which has erroneously been attributed just to *CSI* viewing.

The implications of these findings may be of interest to legal practitioners, for example, in terms of jury selection for trials in which forensic evidence will be presented. The results of the study suggest that rendering predictions of prospective jurors' perceptions of forensic science may be better informed by consideration of these other factors than they would be with strict reference to jurors' *CSI* viewership alone.

American legal practitioners may wish to consider jurors' respective ages, their gender, the amount of schooling that they have acquired, their experiences with crime, and whether or not they have learned from media both documentary and entertainment-oriented, including, but not limited to *CSI* when selecting jurors for cases in which forensic scientific evidence will be presented. Although Canadian lawyers are unable to ascertain prospective jurors' experience with crime and their media consumption, age and gender may be visually inferred, and years of schooling may be estimated by virtue of jury panelists' occupations.

In addition to these implications, why do these social location, life experience, and other media effects unrelated to *CSI* viewing offer an important contribution to CSI effect research? Because their statistical significance demonstrates and reiterates the fact that *CSI* viewing does not occur in a vacuum. If it did, a *CSI*-specific effect may be more plausible. Yet even the plausibility of a CSI effect (at least as it has been asserted by CSI effect claimants) nevertheless rests on assumptions concerning the uncritical passivity of its viewers. Interestingly, while it goes without saying that people are dynamic beings with diverse and disparately formed understandings of subjects such as forensic science, perhaps it is the obviousness of this dynamicism that has allowed it to be forgotten in existing CSI effect research. Studies concerning the CSI effect conducted to date have essentialized respondents into viewers and non-viewers and operationalized viewership as the best forecaster of *CSI*'s effects. These researchers have therefore translated into their research design the same measures used by CSI effect claimants (viewership alone) to judge ostensibly misinformed jurors. My findings indicate, however, that measuring *CSI*'s effects by virtue of viewership alone is insufficient.

My results suggest that when evidence of a *CSI* effect can be located, it is not always reflected in viewership of the programs. Many more respondents indicated having learned about forensics from *CSI* than did those who identified themselves as regular *CSI* viewers. Indeed, having learned about forensic science from *CSI* emerged as a statistically significant and positively associated predictor of respondents' perceptions of the necessity of forensic science, even when the *CSI* viewing predictor did not. The inadequacy of viewership as a measure of *CSI*'s effects was also reiterated in the predicted perceptions of respondents in both regressions. Viewers who indicated having learned nothing from *CSI* perceived forensic science to be less accurate and less necessary than *CSI* viewers who indicated having learned about forensic science from watching the programs, with the perceptions of non-viewers suspended somewhere in between. These results indicate that subjective assessments of *CSI*'s effects may be more revealing than objective measures of them.

Yet it should be reiterated that despite theoretical evidence of *CSI*'s effects manifest by virtue of the contextualizing variables included in my analysis, and despite methodological differences between my study and others, my general conclusions about the CSI effect tend to confirm those found in peer-reviewed CSI effect research. Akin to the findings yielded by Podlas and Shelton et al., evidence of a *CSI* specific effect is negligible given the relatively imperceptible differences between the perceptions of *CSI* viewers and non-viewers. Furthermore, these comparable perceptions do not appear to suggest that public expectations of forensic science are unrealistic or inflated. Although CSI effect claimants suggest that *CSI* viewing will lead people to believe that forensic science is completely accurate and therefore always necessary in determining criminal

guilt, viewer and non-viewer perceptions challenge these assertions. With reference to the predicted perceptions of *CSI* viewers and non-viewers represented in Figures 6 and 7, it is evident that viewers and non-viewers do not appear to hold perceptions which are this extreme. Regardless of *CSI* viewership, respondents' appear to consider forensic science, in general, to be somewhere between accurate or usually accurate, and between somewhat necessary and necessary in determining criminal guilt. Therefore again, contrary to the assertions of CSI effect claimants, respondents do not appear to perceive forensic science as completely accurate and always necessary in determining criminal guilt.

While my findings have contributed context and confirmation of the results of existing CSI effect literature, my analysis is not without limitations. For example, my inclusion of the "life experience variables" and the "other media variables" was intended to locate *CSI*'s effects within a larger media(ted) social world, and my incorporation of the *CSI*-specific variables was intended to offer texture to CSI effect research by demonstrating that strictly objective measures of *CSI's* effects may be ineffective. While my findings suggest that these considerations do offer important insights into assessments of the CSI effect, my conclusions may have been more textured with a more extensive examination of these other variables. In light of the statistical significance of variables such as experience with crime and documentaries, several considerations remain open to question. For example, how would the results have been affected if respondents had been able to indicate how much of their forensic science knowledge came from these sources? Or if respondents had been able to indicate the type of crime they had directly or indirectly experienced? Or if respondents were able to comment upon *what* they learned

about forensic science from this experience and these other media sources? As my findings in the accuracy regression indicated, it was the contingent relationship between learning from *CSI* and the amount of forensic science acquired from the programs that provided the most illuminating results. It therefore seems plausible to assume that equally elucidating results may have been yielded by obtaining similar information about these other variables.

Similarly, my choice of method did not allow me to render inferences about the relationships between the various predictors included in my analysis, nor of the direction or order of associations between them. Therefore whether or not the associations I have examined are relationships which are reversed or reciprocal, for example, remains open to question. It appears possible, for instance, that for some respondents, *CSI* viewing may have *preceded* or perhaps even inspired their pursuit of work in a related field and/or their pursuit of educational courses or their use of media sources relating to forensics. Similarly, having experienced or known someone who had experienced a crime may have motivated others to engage in learning about forensic science from other sources, to note only a few of several possibilities. The potential direction or order of relationships between these variables could arguably offer valuable insights into public perceptions of forensic science, and indeed, of *CSI*'s influence upon them.

Finally, like many studies of this sort, my results are only suggestive of broad population trends, and are unable to speak to the cognitive processes and highly individuated contexts driving respondents' answers to these telephone survey questions. Although the variables I selected for my analysis were included to avoid essentializing respondents into viewership categories, I do acknowledge that my incorporation of these

other predictors only serves to essentialize respondents on the basis of what are simply more numerous categorizations, qualifications which again, only allow me to speak to larger trends. Similarly, the immediacy of telephone surveys necessarily abbreviates respondents' ability to reflect upon and weigh their responses to the questions posed. These circumstances arguably create some distance between respondents' survey responses and what may be their "actual perceptions," a limitation noted in media effects research (Shrum, 2002:85-86).

Taken together, these limitations suggest that further research into what appears to be increasing public expectations of forensic science is required. The results of my analysis point to research warranted in areas pertaining to both experiences with, and information sources about, forensic science and to further research concerning public perceptions of forensic science in general. Future research might examine, for example, the nature and content of other forensic science-related resources and experiences including but not limited to the media, the relationships (and perhaps causal direction) between these experiences and/or use of these resources, and/or what these resources and experiences communicate about forensic science to the people engaging with/experiencing them. Although there are substantial bodies of research pertaining to public perceptions of science and technology, and of crime and criminal justice, there is a dearth of research uniting the two with respect to public perceptions of forensic science. Given the widespread claims of *CSI*'s effects, and the changes already being effected by legal practitioners across North America in response to it, clearly further research in this area is warranted.

Despite the limitations of my research, my findings nevertheless accord with related CSI effect research and confirm that *CSI* viewers and non-viewers share similar perceptions of forensic science. As such, the phantasmic CSI effect appears as though it may be something of a "factoid"[23] – an accepted reality by virtue of its repeated invocation by the media" (Tyler, 2006:1083). Popularized by virtue of its intuitive appeal, ironically, the "CSI effect" may not be an effect *caused* by the media, but one which has instead been *promulgated* by the media.

Yet how then can this "(non) effect" which nevertheless remains common to viewers and non-viewers be interpreted? Podlas referred to it as "a 'CSI effect' across the population" (2006:464) without further interpretation, and Shelton et al. hypothesized a "tech effect" (2006) brought about by advances in technology that both increase the capacity of science and facilitate the immediate dissemination of this and other information. I agree with their assertions, and further the argument by contending that forensic science, and by virtue of its content, that *CSI*, may have become emblematic of both the rapid rate of scientific and technological change our society is continually undergoing, and of a desire for a social certainty of justice that continues to wane.

Dr. Raymond A. Schroth notes that "the quality of crime fiction reflects the values of its era," and argues that *CSI* is written for and within an era of techno-gadgets from cell phones and email to DVDs and iPods (2004:16-17). I would argue that *CSI*'s depictions of instantaneous results yielded by forensic scientific technology therefore reflects not only today's burgeoning of technological gadgetry, but the ease with which we can immediately generate and acquire not just phone calls and letters, movies and

[23] The Oxford English Dictionary defines "factoid" in part, as follows: *noun.* Something that becomes accepted as a fact, although it is not (or may not be) true; an assumption or speculation reported and repeated so often that it is popularly considered true; a simulated or imagined fact.

music, but seemingly, justice. McCormick posits that *CSI*'s popularity may be the result of our common desire

> to live in a world where we base our judgments on clear, certain, and correct data. Maybe we love these shows because we want to inhabit a moral universe where the difference between guilt and innocence and right and wrong is a matter of black and white, a question of a negative or positive lab result (2005:45).

As Tyler notes, *CSI* simplifies "the messy uncertainties of real-world crimes" (2006:1065), and Jerry Bruckheimer, one of *CSI*'s Executive Producers, himself maintains that "audiences want the feeling that they are in control and that if there is evil in the world, which there is, we can deal with it" (Streisand, 2002:14). The absence of a notable CSI effect suggests the possibility that perhaps *CSI*'s popularity is due to its fantastical representations of forensic science as the newfangled answer to otherwise ambiguous determinations of justice. In other words, perhaps *CSI* is not causing the public to form fantastical perceptions of the accuracy and necessity of forensic science, but only (re)iterating them in a media(ted) and tidily resolved form.

BIBLIOGRAPHY

Talk with 'CSI' creator (2002). [Electronic Version]. *CNN.com/Transcripts* from http://transcripts.cnn.com/TRANSCRIPTS/0205/15/lt.02.html.

'CSI effect' making cases hard to prove: lawyers. (2005). [Electronic Version]. *ABC News Online* from http://www.abc.net.au/news/newsitems/200509/s1467632.htm.

'The CSI effect': Does the TV crime drama influence how jurors think? (2005). [Electronic Version]. *CBSNews.com* from http://www.cbsnews.com/stories/2005/03/21/earlyshow/main681949.shtml.

Prosecutors feel the 'CSI effect': Jurors now expect hi-tech science (2005). [Electronic Version]. *CBSNews.com* from http://www.cbsnews.com/stories/2005/02/10/eveningnews/main673060.shtml.

Adoni, H., & Mane, S. (1984). Media and the social construction of reality: Toward an integration of theory and research. *Communication Research, 11*(3), 323-340.

Ball-Rokeach, S. J. (1985). The origins of individual media system dependency: Sociological framework. *Communication Research, 12*(4), 485-510.

Ball-Rokeach, S. J., & Cantor, M. G. (Eds.). (1986). *Media, Audience and Social Structure*. Beverly Hills: Sage.

Ball-Rokeach, S. J., & DeFleur, M. L. (1976). A dependency model of mass-media effects. *Communication Research, 3*(1), 3-21.

Ball-Rokeach, S. J., Rokeach, M., & Grube, J. W. (1984). *The Great American Values Test: Influencing Behavior and Belief Through Television.* New York: Free Press.

Brockman, J., & Rose, G. (2001). *An Introduction to Canadian Criminal Procedures and Evidence for the Social Sciences* (2nd ed.). Toronto: Nelson Canada.

Cather, K. H. (2004). The CSI effect: Fake TV and its impact on jurors in criminal cases. *The Prosecutor, 38*(2), 9-15.

Cavender, G., & Deutsch, S. K. (2007). CSI and moral authority: The police and science. *Crime, Media, Culture, 3*(1), 67-81.

Clairmont, S. (2005, September 29). Public is a Victim of 'The CSI effect'. *The Spectator,* p. A1.

Cohen, J., & Cohen, P. (1983). Multiple regression/correlation: Two or more independent variables. In *Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences* (2nd ed., pp. 79-132). Hillsdale: Lawrence Erlbaum Associates, Inc.

Cohn, A. (n.d.). The 'C.S.I. effect' [Electronic Version]. *wtnh.com* from http://www.wtnh.com/global/story.asp?s=4446803&.

Cole, S., & Dioso, R. (2005). Law and the lab: Do TV shows really affect how juries vote? Let's look at the evidence [Electronic Version]. *Opinion Journal from The Wall Street Journal Editorial Page* from http://www.opinionjournal.com/taste/?id=110006686.

Connelly, C. (2005). The CSI effect [Electronic Version]. *National Center for State Courts Jur-E Bulletin*. Retrieved 2006 from http://www.ncsconline.org/WC/Publications/KIS_JurInnJurE07-29-05.pdf.

DeFleur, M. L., & Ball-Rokeach, S. J. (1989). Media system dependency theory. In *Theories of Mass Communication* (pp. 297-327). White Plains: Longman.

DiFonzo, J. H. (2005). The crimes of crime labs. *Hofstra Law Review, 34*(1), 1-11.

Dowler, K. (2003). Media consumption and public attitudes toward crime and justice: The relationship between fear of crime, punitive attitudes, and perceived police effectiveness [Electronic Version]. *Journal of Criminal Justice and Popular Culture*, 10, 109-126.

Durant, J. R., Evans, G., A., & Thomas, G. P. (1989, July 6). The public understanding of science. *Nature, 340*(6228), 11-14.

Dutelle, A. (2006). The *CSI* effect and your department [Electronic Version]. *Law & Order*, 54, 113-114.

Dworetzky, T. (2005). Final reckoning [Electronic Version]. *Popular Mechanics*, 182, 56-59.

Ebersole, R. (2002). Crime science. *Current Science, 88*(3), 8-9.

Einsiedel, E. F. (1994). Mental maps of science: Knowledge and attitudes among Canadian adults. *International Journal of Public Opinion Research, 6*(1), 35-44.

Elliot, W. R., & Rosenberg, W. L. (1987). Media exposure and beliefs about science and technology. *Communication Research, 14*(2), 164-188.

Field, A. (2005). *Discovering Statistics Using SPSS* (2nd ed.). London: SAGE Publications Ltd.

Gever, M. (2005). The spectacle of crime, digitized. CSI: Crime scene investigation and social anatomy. *European Journal of Cultural Studies, 8*(4), 445-463.

Gildea, J. (n.d.). America falls for the CSI effect [Electronic Version]. *The Daily Cardinal* from http://www.truthinjustice.org/CSI-effect.htm.

Goehner, A. L., Lofaro, L., & Novack, K. (2004). Where CSI meets real law and order [Electronic Version]. *Time*, 164, 69.

Goode, E. (2004). The skeptic meets *CSI* (*Crime Scene Investigation*): How far should artistic license go? *Skeptic, 10*(4), 75-77.

Gregory, J., & Miller, S. (1998). *Science in Public: Communication, Culture, and Credibility*. New York: Plenum Press.

Hayes, J. (2004). Exquisite corpses [Electronic Version]. *New York Magazine* from http://nymag.com/nymetro/arts/tv/9906/.

Heinrick, J. (2006). Everyone's an expert: The CSI effect's negative impact on juries. *The Triple Helix*, 59-61.

Horkheimer, M., & Adorno, T. W. (2001). The culture industry: Enlightenment as mass deception. In M. G. Durham & D. M. Kellner (Eds.), *Media and Cultural Studies: Keyworks* (Revised ed., pp. 41-72). Malden: Blackwell Publishing.

Houck, M. M. (2006). CSI: Reality. *Scientific American, 295*(1), 84-89.

Lovgren, S. (2004). "'CSI' effect" is mixed blessing for real crime labs [Electronic Version]. *National Geographic News, News Front Page, Science & Space.* from http://news.nationalgeographic.com/news/2004/09/0923_040923_csi.html.

Maricopa County Attorney's Office. (2005). CSI: Maricopa County. The CSI effect and its real-life impact on justice. 1-11.

Massie, A. (2005). 'CSI effect' evident in US courtrooms [Electronic Version]. *Scotland on Sunday, Scotsman.com International News* from http://news.scotsman.com/international.cfm?id=436302005.

McCormick, P. (2005). Science fiction. *U.S. Catholic, 70*(1), 44-46.

McNeely, C. L. (1995). Perceptions of the criminal justice system: Television imagery and public knowledge in the United States. *Journal of Criminal Justice and Popular Culture, 3*(1), 1-20.

Miller, J. D. (2004). Public understanding of, and attitudes toward, scientific research: What we know and what we need to know. *Public Understanding of Science, 13*(3), 273-294.

Mirsky, S. (2005). Crime scene instigation. *Scientific American, 292*(5), 100.

Mopas, M. (2007). Examining the 'CSI effect' through an ANT lens. *Crime, Media, Culture, 3*(1), 110-117.

Morley, D. (1989). Changing paradigms in audience studies. In E. Seiter, H. Borchers, G. Kreutzner & E.-M. Warth (Eds.), *Remote Control: Television, Audiences & Cultural Power* (pp. 16-43). New York: Routledge.

National Science Board. (2006). Science and technology: Public attitudes and understanding [Electronic Version]. In *Science and Engineering Indicators* (pp. 7-1 to 7-46). Arlington: National Science Board.

Nisbet, M. C., Scheufele, D. A., Shanahan, J., Moy, P., Brossard, D., & Lewenstein, B. V. (2002). Knowledge, reservations, or promise?: A media effects model for public perceptions of science and technology. *Communication Research, 29*(5), 584-608.

O'Keefe, G. J., & Reid-Nash, K. (1987). Crime news and real-world blues: The effects of the media on social reality. *Communication Research, 14*(2), 147-163.

Pasquale, C. D. (2006). Beyond the smoking gun. *The Daily Record.*

Podlas, K. (2006). "The CSI effect": Exposing the media myth. *Fordham Intellectual Property, Media and Entertainment Law Journal, 16*(2), 429-465.

Poniewozik, J., & Berestein, L. (2002, March 31). Murder in six easy steps [Electronic Version]. *Time Europe*, 159, 68.

Population Research Laboratory. (July 2006). *The 2006 Alberta Survey*. Edmonton: University of Alberta.

Riggs, T. (2005). 'CSI-effect' causes concern [Electronic Version]. *The Herald Journal* from http://hjnews.townnews.com/articles/2005/08/11/news/news03.prt.

Rincon, P. (2005). CSI shows give 'unrealistic view' [Electronic Version]. *BBC News, Science/Nature*.

Roane, K. R. (2005). The CSI effect [Electronic Version]. *U.S. News & World Report.* from http://www.usnews.com/usnews/culture/articles/050425/25csi.htm.

Robben, J. (2005). The 'CSI' effect: Popular culture and the justice system [Electronic Version]. *Oregon State Bar Bulletin* from http://www.osbar.org/publications/bulletin/05oct/csi.html.

Schroth, R. A. (2004, March 12). The case of the beautiful corpse. *National Catholic Reporter,* 16-17.

Shelton, D. E., Kim, Y. S., & Barak, G. (2006). A study of juror expectations and demands concerning scientific evidence: Does the 'CSI effect' exist? *Vanderbilt Journal of Entertainment & Technology Law, 9*(2), 331-368.

Shrum, L. J. (2002). Media consumption and perceptions of social reality: Effects and underlying processes. In J. Bryant (Ed.), *Media Effects: Advances in Theory and Research* (pp. 69-95). Mahwah: Lawrence Erlbaum Associates, Incorporated.

Stockwell, J. (2005). Defense, prosecution play to new 'CSI' savvy: Juries expecting TV-style forensics [Electronic Version]. *washingtonpost.com, Metro, Crime* from http://www.washingtonpost.com/wp-dyn/content/article/2005/05/21/AR2005052100831.html.

Streisand, B. (2002). CSI: Crime scene inquiry. *U.S. News & World Report, 133*(18), 14.

Surette, R. (1998). *Media, Crime, and Criminal Justice: Images and Realities* (2nd ed.). Albany: Wadsworth Publishing Company.

Tandy, P. (2006). Pondering the 'CSI effect' [Electronic Version]. *Maryland Bar Bulletin* from http://www.msba.org/departments/commpubl/publications/bar_bult/2006/oct/csi.htm.

Tanovich, D. M., Paciocco, D. M., & Skurka, S. (1997). *Jury Selection in Criminal Trials*. Concord: Irwin Law.

Tibbets, J. (2007). 'CSI effect' changing legal system [Electronic Version]. *Canada.com* from http://www.canada.com/technology/story.html?id=56bf2d40-3b3b-40e0-8ee2-7394ecaf9595&k=20509.

Turow, J. (2004). "The answers are always in the body": Forensic pathology in US crime programmes. *Lancet, 364*, 54-55.

Tyler, T. R. (2006). Viewing *CSI* and the threshold of guilt: Managing truth and justice in reality and fiction. *The Yale Law Journal, 115*(5), 1050-1085.

Valverde, M. (2006). *Law and Order: Images, Meanings, Myths*. Piscataway: Rutgers University Press.

Watkins, M. J. (2004). Forensics in the media: Have attorneys reacted to the growing popularity of forensic crime dramas? [Electronic Version] from http://www.coolings.net/education/papers/Capstone-Electronic.pdf.

Willing, R. (2004). 'CSI effect' has juries wanting more evidence [Electronic Version]. *USA Today* from http://www.usatoday.com/news/nation/2004-08-05-csi-effect_x.htm.

Winter, R. J., & York, R. M. (2007). The 'CSI effect': Now playing in a courtroom near you? [Electronic Version]. *Monitor on Psychology*, 38, 54.

Zickefoose, S. (2006, June 19). Jurors look to TV for guidance. *Calgary Herald*, p. B1.

APPENDIX

Below are my calculations for the Predicted Perception Scores plotted on pages 70 and 86, respectively.

Table 7: Predicted Perception Scores for Hypothetical Accuracy Regression Respondents

Variable	beta		Person 1	Person 2	Person 3	Person 4	Person 5	Person 6
(constant)	(2.694)		(2.694)	(2.694)	(2.694)	(2.694)	(2.694)	(2.694)
CSI Viewing	-0.279	x	***0***	***1***	***1***	***1***	***1***	***1***
Age	0.018	x	44.51	44.51	44.51	44.51	44.51	44.51
Age^2	0.000	x	2209.55	2209.55	2209.55	2209.55	2209.55	2209.55
Gender	-0.130	x	1	1	1	1	1	1
Years of Schooling	-0.017	x	15.06	15.06	15.06	15.06	15.06	15.06
Experienced Crime	0.121	x	0	0	0	0	0	0
Learned from *CSI*	0.211	x	***0***	***0***	***1***	***1***	***1***	***1***
Amount of Knowledge from *CSI*	0.025	x	***0***	***0***	***1***	***2***	***3***	***4***
Depiction of FS Technology	0.199	x	0	0	0	0	0	0
		Σ	2.709	2.430	2.666	2.691	2.716	2.741

Table 8: Predicted Perception Scores for Hypothetical Necessity Regression Respondents

Variable	beta		Non *CSI* Viewer	*CSI* Viewer, No Learning	*CSI* Viewer, Learns
(constant)	(2.984)		(2.984)	(2.984)	(2.984)
CSI Viewing	-0.231	x	***0***	***1***	***1***
Gender	-0.166	x	1	1	1
Years of Schooling	-0.048	x	15.07	15.07	15.07
Experienced Crime	0.238	x	0	0	0
Entertainment Media	0.245	x	0	0	0
Learned from *CSI*	0.254	x	***0***	***0***	***1***
		Σ	2.092	1.861	2.115